000

NEW TRAILS IN MEXICO

AN ACCOUNT OF ONE YEAR'S EXPLORATION IN
NORTH-WESTERN SONORA, MEXICO, AND SOUTH-WESTERN ARIZONA
1909-1910

BY

CARL LUMHOLTZ, M.A.

MEMBER OF THE SOCIETY OF SCIENCES OF CHRISTIANIA; GOLD MEDALLIST OF THE NORWEGIAN
GEOGRAPHICAL SOCIETY; ASSOCIÉ ÉTRANGER DE LA SOCIÉTÉ DE L'ANTHROPOLOGIE
DE PARIS; AUTHOR OF "AMONG CANNIBALS," "UNKNOWN MEXICO," ETC.

WITH NUMEROUS ILLUSTRATIONS
INCLUDING TWO COLOR PLATES AND TWO MAPS

T. FISHER UNWIN
LONDON: ADELPHI TERRACE
LEIPSIC: INSELSTRASSE 20
1912

[Title Page]

[pp i to 22 not processed for files]

000 often not far from water. Another American of many years' residence, who had shot deer south-east of Libertad, confirmed this. Certain it is that domesticated animals of arid regions are much more enduring than those of moister regions. Cattle will live well for months without any other water than that of the juice of the cacti, which is, besides, their principal means of subsistence. Even horses do not come in to drink of their own free will every day during the winter. In my travels it was the usual thing during the winter time for our animals to go without water every second day; such is the custom of that western desert country and its animals are in surprisingly good condition. On one occasion, in March, our horses and mules, travelling during the day, had no water for seventy-six hours. It was only the horses that suffered and this was more from the quality of the water than from the lack of it. There is one domestic animal, however, man's constant companion, the dog, that declines to adapt itself to desert conditions. Besides suffering from thirst, the hot soil makes its feet sore and it does not know on which leg to stand. Even the dogs of the Indians when travelling, especially in the hot season, remain behind panting in what little shade there may be under the bushes, and only continue their journey in the coolness of the evening.

101 In such an environment* live the Papago Indians, the people of the desert. They are a Pima tribe and speak the same language as the Pima Indians with some variations of dialect. Their number reaches perhaps four thousand five hundred, of whom not over seven hundred

*[i.e., Arid. — Analyst]

101 live in Mexico. The name Papago is usually interpreted as meaning "bean people." Their tribal name as employed by themselves is *Óotam*, which means "the people." They call the Pima Indians *Ákimuri Óotam*, "river people," referring appropriately to their habitat on the Gila River. The Pima call the Papago *Tóono Ootam*, "desert people."

797 The early Spanish missionaries were unable to exercise much influence over this tribe. The indefatigable Jesuit, Father Kino, who in the present State of Sonora in 1687 established his first mission, Dolores, travelled much in the Papagueria or Pimeria Alta, as far as the Gila River and crossing the Colorado. He was treated kindly by the Papagoes; but they have, nevertheless, been described by the early chroniclers as wild and dangerous. [754] According to Mr. Bandelier, there is no historical record left of their customs and religion beyond that concerning the prevalence of witchcraft, which is still much in evidence. Even up to recent years the Papagoes made short work of medicine-men suspected of witchcraft.

The topographical position of the missions that were established was such that with the forts, or presidios, they formed a barrier against the Apaches, who were the main obstacle to the Christianizing and civilizing efforts of the Spaniard. Some of the missions of the "Province of Sonora" grew to be very rich in cattle and cultivated lands, feeding, as a recent Mexican author says, "a multitude of pagans who flocked there and helped in the work of the mission when needed." Sometimes the

missions furnished the troops with horses. In the Papagueria 797
proper there were well-to-do missions such as
Caborca, but the nature of most of that country would
indicate that they were generally on a modest scale.
There was one in Sonoita and two on the Gila River.
In 1751-3 there was a revolt in Pimeria Alta, and in 1840
the Papagoes again revolted against the government.

With the expulsion of the Jesuits in 1767, and later of the Franciscans in 1828, the missions as well as the forts decayed and vanished. Changing political conditions in Mexico also contributed toward their disappearance. To-day the former missions interest few and are left to the archæologist to trace. Such has been the fate also of the missions among the Yaqui, Opata, and Seri Indians.

As for the Papago, the greater part of the tribe never 361
could be induced to live in pueblos, or villages, which was 221
always the policy of the Spanish missionary. In spite of
the efforts of the Jesuits and Franciscans, the Papagoes
are still living in their *rancherias* as of old, half nomadic
in habit, resorting in the winter to the sierras where
water is more plentiful and where their cattle, horses,
mules, and donkeys find good grazing ground. In the 361
summer they move to the broad, flat valleys to devote 241
themselves to agriculture which is made possible by the
aid of the showers that fall in July and August. They [312]
do not usually pursue irrigation beyond the diverting of
rain water into ditches. In the summer they raise maize,
beans, watermelons, and squashes, and in the winter
when infrequent light showers usually may be depended

361 upon, peas, barley, and lentils may be planted, all on a
241 small scale, according to Indian habits. Wheat, which is
grown in November and harvested in May, is now the
most important crop.

361 By scooping up the earth they make dams in which
312 rain-water is stored for household use as well as for their
domestic animals. This is especially the case at the summer rancherias. Of late years they have also taken to the digging of wells, going sometimes as deep as seventy feet, but they have been known to find an abundance of water at a depth of only eighteen feet. Thus the Papagoes, though sedentary Indians, have distinct habitations for summer and winter. The aboriginal name for the summer rancherias is *oóitak*, fields, called by the Mexicans *temporales*. The winter rancherias are called *kibim*, where there are houses (*ki*), and these might be called villages. In some cases the summer rancherias seem to be considered the more important habitations, and medicine lodges are found at both.

721 As implacable enemies of the Apaches, the Papagoes were of some assistance to the early missionaries in helping the presidios to fight their savage foes, and they have several times, says J. F. Velasco, presented the government with ears and scalps of Apaches they had killed. Their innate enmity to the Apaches later gained them the favor of the Americans, who received their valuable assistance in campaigns against these marauders. They also gained the good-will of the Mexican Government by assisting in the war against the valiant Yaqui Indians.

600 It has been the good fortune of the Papagoes to live

It has been the good fortune of the Papagoes to live 177
in a country which the white man as yet has not found
it profitable to exploit by cattle raising or, still less, by
dry farming. Therefore, they have so far been left alone
in their native country, and besides they have even come
into possession of a few wells which the Americans dug
in their efforts to redeem the land. These natives are
thus better situated than most of the tribes of North
America.

The Papagoes are above medium height, rather dark 142
in color, and of splendid physique. The women are inclined
to be stout. They are a peaceful but at the same 181
time courageous people and show much intelligence.
They are hospitable, as becomes a desert people, and if 574
food is being prepared in the house when a stranger
comes, some of it is offered to him, be he Indian, Mexican,
or American.

In the central part of the Papagueria, especially in 177
the large valley of Santa Rosa and the adjacent Quijotoa 182
and Comobabi ranges, they live happy days without
much interference from the whites. Some of the summer [311]
rancherias astonished me by their extent of land
fenced by wooden piles and poles, but in outlying districts
many are forced to seek work from the whites, by
whom they are much valued as laborers in the making
of railroads, irrigation ditches, and in mining. The part
of the tribe that lives in Sonora is much more disrupted;
they have lost most of their lands and are largely servants
of the Mexicans, doing efficient work as *vaqueros*
(cowboys), miners, etc. The Papagoes also know how 177
to "dry wash" gold at the placer mines, many of which 316

177 are found in Sonora, and the discovery of one or two
316 large placer mines has been due to these Indians.

231 The Papagoes are by no means badly off, as a rule,
511 and they manage to make a good living where, so far,
the white man's efforts have failed. Their herds, adapting themselves to the arid conditions, are increasing and making the Indian prosperous and comfortable. Good mules now carry burdens which his wife or he himself formerly had to toil under; cheese is made from the milk of their cows and sold or used for their own consumption, and, above all, they have wheat and maize in sufficient quantities to last them all the year round. They
[439] also have wheat and occasionally some head of cattle to sell, obtaining in return commodities of civilized life.
[177 The white man's kitchen utensils are being acquired,
412] and the women have begun to find it more convenient to use flour than to grind the grain on the metate. No native race, though keeping its language, can help changing its ideas under such conditions. In a very few years there will be no more interest attached to the Papago than to the native descendant of the once proud Aztec in the suburbs of the City of Mexico.

191 Although the Papago in Arizona always insists upon
speaking his own language, still he is rapidly losing his
182 aboriginal beliefs, customs, and habits; even basketwork,
177 for which the women of the tribe were noted, is falling
into decay. Both in Arizona and Sonora the Indians have completely adopted the white man's garments.
177 Some old man may still be found in the more remote
241 parts wearing his aboriginal apparel, consisting of a

breech cloth around the loins, but this is getting to be 177
an extremely rare sight, and it must be confessed that 291
the ready-made blue overalls of the white laboring man
of the West, the colored shirt, a picturesque neckerchief,
and gray felt hat with straight brim are quite becoming
to the young bucks with their superb, lithe, and supple
figures, with somewhat narrow hips. No man wears his [302
hair long any more, but tattooing marks in the face are 304]
still seen on men and women of the former generation in
the Santa Rosa valley, where ancient customs and beliefs
have been preserved longer than anywhere else. In this
extensive valley are also found the most important rancherias.

I was glad to have visited these Indians while there 177
was still something of the ancient atmosphere left in the
more remote parts of the Papagueria. The fact is that these decided changes in the conditions of the Papago have come about comparatively recently, perhaps during the last thirty or forty years. As Mr. Bandelier, the great authority on the history of the South-west, truly says, the ethnography of Arizona has not changed much since the year 1600. The Apaches by their raids altered tribal relations, but the change that most concerns us here is due to the settling of the country since its annexation by the United States, and in Sonora to the discovery of gold. Though possibly originating in a less arid region, the Papagoes, in relation to their environment, ought to be a no less interesting study than the country itself.

CHAPTER III

AN EXPEDITION INTO SOUTHERN ARIZONA—MY COMPANION—THE RANGE OF BABOQUIVARI—FRESNAL—PAPAGO MANNER OF CURING DISEASE—AT THE BOUNDARY—AN UNUSUAL RELIGIOUS COMMOTION—VISIT TO A SACRED CAVE—INDIAN OASIS

124 On June 20 I started from Tucson bound for a journey of exploration of that part of Arizona which is occupied by the Papago Indians. My sole companion was José Xavier Pablo, a full-blooded civilized native of that tribe, twenty-six years old. He had learned carpentry in Tucson, in which he was as proficient as any white man. He was also a painter and plumber; in fact, he could turn his hand to almost anything of a practical nature. Thus, assisted by two other Indians, he had put up the telephone line between Tucson and the Presbyterian Mission School, which he had frequented for nine years. He furnished his own wagon and two hardy horses bred in the desert, and before starting he shod his horses himself. Pablo also served as my interpreter. He was intelligent and reliable, besides being of an unusually even temper; during the two months we travelled together, I do not remember ever to have known him cross or to lose his temper.

122 In addition to the usual provisions, we had two canteens of the generous Western size, each capable of holding two and one-half gallons of water, and also one of smaller size. Of course, the water barrel on the side of

the wagon was not wanting; also rifle, shot-gun, and rid- 122
ing saddle were taken along, not to mention photographic
cameras and the necessary scientific instruments. In the
outskirts of Tucson, near an old mill, we filled our barrel
and gave our horses a good drink at the clear, smooth-
flowing stream of the Santa Cruz River, which was in
such a delightful contrast to the arid landscape.

It had been my intention to go down first along the
eastern side of the Baboquivari Range as far as La Osa
Ranch, but the road turned out to be sandy and heavy,
and I was obliged to return and limit my initiatory jour-
ney to travelling along its western side. A happy-look- [527]
ing Papago family from the suburbs of Tucson passed us
on their way to the sahuaros (giant cactus); they were
going to spend the *Dia de San Juan*, midsummer day, in
the country picking the much coveted fruit. An Indian
on horseback was on his way to the hot city, Tucson, for
the same celebration. Everyone to his taste!

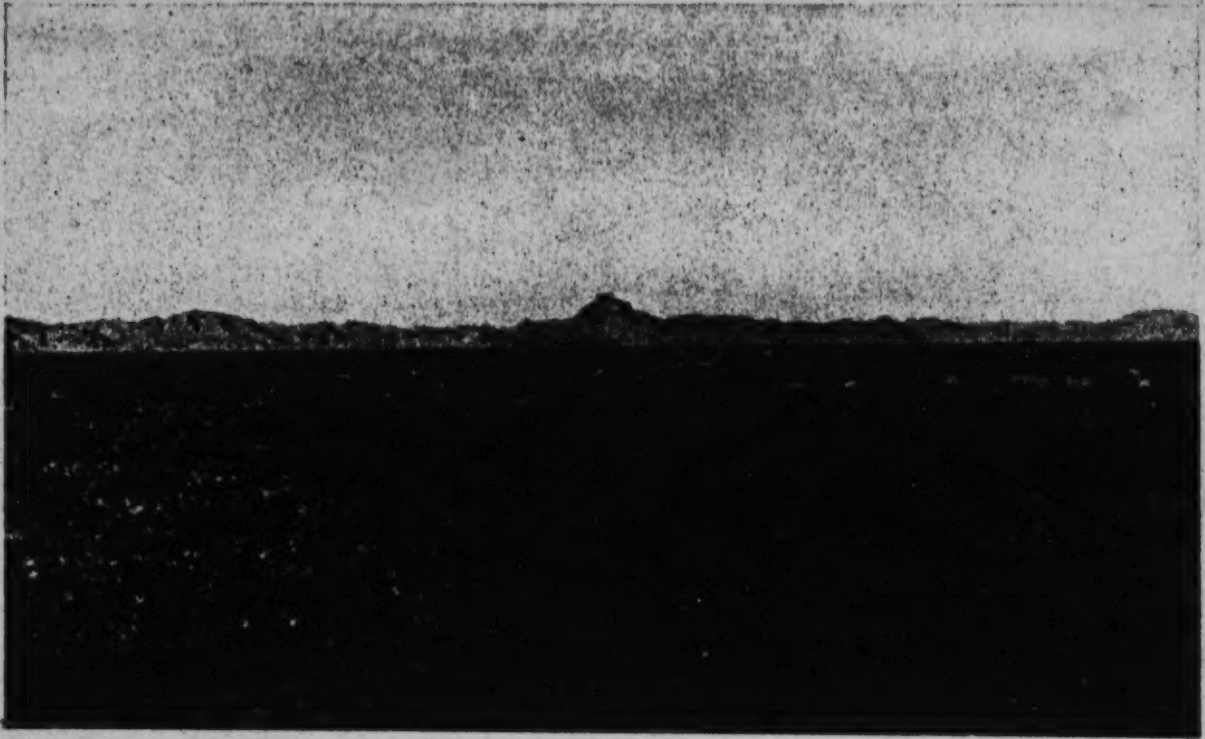
Baboquivari is the familiar name given to an exten- 133
sive range south-west of Tucson. From its central part
rises a peak of somewhat striking shape which gave ori-
gin to its name, Baboquivari being a Spanish corruption
of the Papago name Vavkívolik, meaning: "mountain
(*vav*) narrow about the middle (*kívolik*)"; seen from the
south, the almost perpendicular sides of the peak appear
slightly drawn in at the base. The peak, rising nearly
fifty miles south-west of Tucson as the crow flies, can be
seen from a great distance, from the neighborhood of the
Jack-rabbit mine and the Ajo Mountains in the west, to
Altar, Sonora, in the south. Prof. R. H. Forbes, of the

133 University of Arizona, in July, 1898, succeeded in ascending it, and by an aneroid barometer the height was found to be 7,850 feet above sea-level. The ascent was made from the west side, and, to quote his own words, "the extreme top of the mountain is a gentle oval about a hundred yards across. From this lofty vantage the eye sweeps over about three hundred miles of a terrific and almost untouched wilderness of rocks." There is a small pool on top which holds a few gallons of water after rain. In rainy weather, water drips down on the north side five hundred feet below the top, where several small pools were seen.

It is perhaps at the latter place that the pond is found [778] which is called by the Indians Viikan Shóotak, "Lasting Water" (*shóotak*, water), and which in the belief of the Indians was left by the sea after the deluge. At the time of the making of sahuaro wine for their great feasts of the summer, people go up there to get some of this water, after having first sung to it, to use in the wine making.

132 On Friday, June 25, we approached from the west the large rancheria called Fresnal, situated among the foot-hills below the peak of Baboquivari, which looked more magnificent from that point of view than from any other I have seen. The air was very pure and transparent, and I took a photograph of the peak at half-past five in the afternoon. Just as I cast a glance backward, before making a second exposure, I was astonished to see that the region toward the west and south was hazy, and I had scarcely time to make the exposure when the haze and a light wind, moist from the sea, arrived. A

[Facing p. 32]



PEAK OF BABOQUIVARI, SEEN FROM NORTH-WEST

132 few minutes later the Baboquivari Range, at a distance of ten miles, was enveloped in a light fog. The change was not only seen but felt, the temperature fell, and the moisture of the air was very perceptible. As the wagon was heavy and the road led uphill, it grew late before our arrival, but the moon was half full, so we found our way easily in the now quite chilly evening. The spell of extremely dry air was broken and the season of rain showers approaching.

We made our camp next to a big mezquite tree on a
756 slope among the ranches. The weird singing of a medicine-man sounded through the greater part of the night. Few are those Papagoes who have lost faith in their own doctors, and even the so-called policemen turn to them for relief if anything ails them.

361 Fresnal consists in reality of three rancherias, and we
132 found ourselves in the middle one. They are pleasantly
situated among the foot-hills and look like villages. The
[137] name is derived from some ash trees that grow in the arroyo, the native name having the same meaning. Naturally, the rainfall is greater here in the mountains than on the llano and, according to local accounts, the arroyos at times run a whole day. Occasionally the water is six feet deep. The Indians say that the arroyos here carry water to the Sonoita River.

231 The Indians of Fresnal are well-to-do; three or four of the men are reputed to own as many as two hundred head of cattle and fifty horses each. Wagons and good horses were seen, and there were plenty of chickens about. Men and women, especially the latter, looked in

231 good condition; the young men were not particularly accommodating, as their interest seemed to be centred in the corral, where they were breaking in horses, separating cattle, etc. These natives had little to sell me beyond
285 a fine basket used for harvesting sahuaro fruit. This kind of basket, which now is becoming rare, is of large
[482] size, water-tight, and is carried on the head. Its decora-
[632] tive designs sometimes represent the sahuaro cactus.

204 I visited Santiago, an old hunter, who, according to reports, used to be able to overtake deer, on the run, in half a day, and then shoot them with bow and arrow. In the hot weather these animals are not inclined to run long, as their feet become sore. Santiago is still very agile and quick in his movements and every day he goes out shooting quail, cotton-tails, jack-rabbits, and pigeons.
411 His bow, which I secured, is made from that beautiful greenish blue bush of the desert called *condalia*. It is strengthened by an ox-tail hide pulled over it. The bow string is made from the ligaments of the back of the neck of the same animal. Arrows are made from the *amole* (yucca) flower stalk, the point being of cat-claw, tied by deer sinew.

774 He was also willing to be photographed. He had been to Tucson and there had gone through the experience of the camera, so he had no objection but would expect some gratuity. I took three or four snapshots with my kodak, and he asked fifty cents, which I gave him, but he demanded fifty cents for each exposure, in which I could hardly humor him. The Papagoes all have a great disinclination to being photographed, and

look upon it as being worth a good deal of money to the 774
one who submits to the operation. His bow and four
arrows, the result of much labor, he sold for $1.25. I [435]
gave him some tobacco, candy, and raisins, and we separated
great friends.

In the afternoon I arrived at a house outside of which 755
an old medicine-man, Castillo, was singing to soothe a
patient, a middle-aged, powerful looking man who was
lying on his back in front of him. His singing was accompanied
by the rasping of two sticks; one end of the
notched one he held by his left hand, while the other
end rested against an inverted basket, and he drew the
rasping stick each time up toward him and then down,
the opposite movement to the one which we should use
to produce the same result. Near the basket on the
ground an effigy of a horned lizard had been placed; it [352]
was made of wood and daubed with ochre, its head
turned toward the patient.

Some Indians came up smiling as if they wished it
to be understood that they did not believe in the performance,
for they knew that white men laugh at this.
One of them obligingly brought me a basket for sale as
well as three small ancient objects, a flint arrow-point, a
spinning whorl, and a small perforated stone disk, all
threaded on a string. In the meantime the medicine-man,
whom I watched from my horse, was finishing his
treatment by placing the effigy repeatedly on the patient's
leg, breathing and blowing at the same time. The man 755
had a pain in his leg which had been caused by a horned 825
lizard, for, according to Papago beliefs, all animals have 753

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

753
755 the faculty of making people ill except the deer and the
825 pronghorn antelope. To relieve the illness the doctor had sung a song to the animal, asking it to take the
755 pain away. He then walked into his house; somebody must have told him that I was a *makai* (doctor, medicine-
756 man), for a few minutes later, to my surprise, he brought out his medicine basket, easily recognized by its long shape, and came up to me. We sat down on the ground; he took off the cover and began to unpack the contents of his tray.

753 Many people gathered around us and the sick man half rose from his mat in order to turn around to see who the stranger was. There were many remedies of a similar character to the one just described. Images of certain animals, accompanied by appropriate ceremonies and exhortations, are thought to relieve ailments. Like the native doctor himself, an animal is thought to be able to cause illness as well as to cure. The turtle
[825] causes stiffness, the butterfly produces vomiting, and the badger gives backache. The deer makes persons cough, and their voices weak, and may give consumption; but a deer-tail, placed on a stick and manipulated in the proper way by the medicine-man, will cure that illness, for, as Castillo added by way of explanation, "it is not often you see the deer thin." A piece of clay taken from a gopher's burrow is used against excessive menstrua-
[821] tion or stomach pain. The sun is apt to give fever, and a patient suffering thus is relieved at sunrise; during the incantations of the doctor a small wooden image of the sun rests on the ground, while the patient faces the east.

The old man seemed glad to explain everything. He 756
was also willing to sell me some of his treasures. One 825
of them was a medicine-man's plume consisting of four
eagle plumes tied together so that they diverged two by
two. When used, these are held by the quill ends as a
handle and moved in the air forward and backward as
if dusting an object. When the young girls come of age [881]
they are "dusted" in this way from all evil. The imple-
ment was new and well made, and I wanted to buy it.
"The plume is very valuable," he answered; "with us it [435]
is at least worth as much as a horse or a cow." He
would, however, make it easy for me by letting me have
it for $2.50. I presented him with a pouch of tobacco
and a handful of candy, the cause of much interest to his
little grandchildren who had been clinging to the good-
natured old man all the time that he was explaining.
He also promised to show me the so-called Montezuma's
Cave, in the peak of Baboquivari, some day.

In a light wagon which Pablo borrowed we started 361
on an excursion south, to be possibly extended beyond
the border to Pozo Verde. The day was moist and
warm. We passed several extensive summer rancherias
or temporales as they are usually called. The rude
fences of mezquite looked substantial and the Indian
ranches gave an impression of prosperity. At two places 361
there were dams also fenced in, but they were empty; 312
they had been made by scooping up the rich soil with 515
scrapers and horse-power. The water in such ponds
lasts only three or four months and is not for irrigating
purposes, but solely for the use of men and beasts. The

361 Papagoes do not bathe in them; during the rains they
312 get their baths in the arroyos, men and women bathing
515 separately. There was not a soul to be seen anywhere, as the Indians were still at this time, the end of June, in or near the mountains with their cattle and horses.

133 From a lately established summer rancheria, called San Miguel, southward, the country assumes a different aspect, forming beautiful grassy plains or downs. The mezquites, far apart and small, take the place of greasewoods and the cacti have almost disappeared. There was an abundance of very dry grass of a whitish yellow hue. As the air was laden with moisture, it was to be expected that the coloring of sky and mountains would be fine toward sunset. The western sky beamed with the translucent color of light yellow or orange, while the mountains, which during the glaring light of the day had shown no color beyond a dull gray, appeared deep blue. Much more intense than the air-blue and complementary to that of the setting sun, the color extended to all the mountains around the great *bajio* (basin), while at its western edge a long narrow strip of light green, due to an unusual growth of mezquites, added to the variety. To most people it is not apparent that there is much coloring in any landscape except that caused by inherent qualities, as by vari-colored leaves of trees; if they would lie down on the ground and view the scenery horizontally, they would probably have their eyes opened from this unusual vantage point.

312 There is a well fifteen feet deep at a lonely Indian
361 ranch just on the border, but as the place was found to

be temporarily deserted, and there would be no one to 361
look after our wagon, we had to abandon our intended [312]
trip to Pozo Verde, the largest Papago rancheria at the
present time in Sonora. Its name, Green Spring, has [778]
the same significance in the Papago language, and the
locality is important in the native mythology. Baboquivari rises about a thousand feet above the llano near the boundary line, losing itself in Mexico in low ranges and mountains.

On our return we made a dêtour into a rancheria called Sepânovak ("Smell of the Coyote"), which was situated in a narrow valley of the Baboquivari Range. It had been settled of late years and was small and unattractive. Discarded clothing was lying about, and the inhabitants looked like poor white people, although they owned lots of live stock. Judging from the fine looking fat horses and cattle down on the plains, a different opinion would have been formed of the owners; it was something like the disappointment one feels when a smart turnout of horses with driver and footman discloses ordinary-looking people inside the carriage. Natural and harmonious conditions are the only ones that count in life.

One interesting family, that of Ramon Cachora, lived 797
a little further up the valley from here, he, his two sons and his son-in-law having been leaders in a religious movement of a white man's stamp. They were so-called educated Indians, and a daughter of his had been to Carlisle. It was an anomalous case, for, strange to say, they had become converts to the revivalism of the

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

727 prophet Dowie, who a few years ago made such a stir in various parts of the United States. One of his agents, a lady in Phœnix, had been instrumental in bringing this about.

[181] To understand this conversion, it must be remembered that all Indians are of a religious disposition. In their aboriginal state, while never giving up their own beliefs, the Indians have little objection to any foreign creed; the more religion the better for them. They are quite sincere about it. When these Papagoes heard of the strange teaching of the modern Elijah, it appealed to them. The world was coming to an end and they were going to get ready; people sold what little they owned and settled in the Comobabi Mountains awaiting the arrival of the new Messiah. There were from forty to fifty souls all told, men, women, and children. Ramon Cachora, who was well off, sold his two hundred head of cattle; he became the leader and they sustained themselves mainly with the proceeds of this sale. There was no white man with them. They had everything in common and their rules were strict; brandy and tobacco were forbidden. Sometimes they had services lasting the entire day. For three years they waited for the Messiah to come; then hunger broke up the sect.

231 A herd of horses and a number of cows, many with calves, that had come in to drink the night before, walked off again in the morning to pasture in the plains some six or eight miles away. I asked a man how long a time it would be before they returned and he answered: "A few will come next day, most of them the day after to-

morrow in the afternoon, and some will not return until 231
the third day." It was the hottest time of the year—the [132]
end of June.

Three miles from here, just about where the llano 361
begins, there rises a small hill, four hundred feet high, 172
called La Ventana. On the west side it has been fortified by the ancient people with half a dozen or more stone walls of the usual description. The walls are perhaps more massive than is the case at most places. The fortifications had a remarkably fresh look about them, as if they had been in recent use. On top, where blocks had been broken off to form walls and parapets, the underlying rock still looked as untouched by the hand of time as if the work had been done within two years. Circular or square enclosures of the usual type are seen on a natural terrace near the top. A fairly well constructed track leads up to the summit where a rattlesnake was resting in a cool cavity. A ground-squirrel was noticed, and on the hill-side two camping places of the gray fox were observed, each under a small bush, the ground having been worn quite smooth.

The vast plain is impressive from the top; the ranges, 133
enveloped in a blue haze, appeared small, Comobabi and Quijotoa in the north-west being the nearest. To the right of the Comobabi Range, in one place only, toward north north-west, the view was unobstructed as far as the eye could see. In the south-west the small hills near Sonoita were visible. The many arroyos on the west side of the Baboquivari Range are worthy of note; they are short, quite deep, and impossible for wagons to cross

133 until they widen out into the plains. For this reason the road, such as it is, from Fresnal southward makes a détour west.

778 At the well of Fresnal our horses, having been without water for twenty-two hours, each drank nine bucketfuls. The bucket was not large, but contained more than a gallon. A visit was made to the so-called Montezuma's Cave, once sacred to the Papago as the principal habitation with which tradition credits Sĭhu, also called Ĭitoi, the most important mythical personage of the Papago mythology, being their elder brother as well as creator of the world. The cave is called Elder Brother's House (in Papago, Sĭhuki; *ki*, house). It is situated at six miles' distance from Fresnal. We climbed nearly one thousand feet, and on the south side of a hill, below the peak, our guide, the medicine-man, pointed out the entrance to the sacred place, half hidden among bushes.

It was closed with a wall of loose stones and was so small that a man could only squeeze through with difficulty. The cave was found to be spacious and well formed. At one corner was deposited several hundred
[411] arrows, upright in a bunch, with nothing but the wooden part remaining. No flint points were visible. There is another cave on the east side of the Baboquivari Range, discovered lately by Mr. Jefferson Milton, where a considerable number of obsidian-tipped arrows were secured, one of which is reproduced at page 96.

000 Though a few showers had fallen lately, still no grass had yet made its appearance and travel began to be difficult. The Indians had very little to sell in the way of

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

133
137

Peak of Baboquivari

Ocotillo (*Fouquieria splendens*)

Entrance to the sacred cave, at foot of peak of Baboquivari

Barrel cactus

[Facing p. 42]

000 straw, barley, or wheat, the usual feed for animals. If our horses had not been hardy creatures of the desert, we should not have been able to move about much at that time of the year. I decided to return to Menager's store, at present called Indian Oasis, where we might succeed in securing forage.

A Papago was an efficient clerk in the store. Near by [177] was a small village of civilized Indians; the women, who had been to school near Tucson, after a while responded [191] in English, very softly spoken. A phonograph, which was the only one I saw in the Papagueria, was produced and operated for my entertainment. Many Indians came into the store from the neighboring country. As they [261] were not in the habit of carrying provisions, they were hungry and looked it. I treated them to a generous [796] breakfast and my reward was the information which they volunteered concerning one of their festivals, connected with the gathering of the fruit of the sahuaro, the giant cactus. It was to take place the next day at a rancheria called Noria, situated in the Comobabi Mountains at no great distance, and I decided to go there.

Opportunely for my journey, in the evening of July 4 unusually heavy rain fell during forty-five minutes, the storm making short work of my tent which I decided to leave behind here on account of its being so large and inconvenient. Nearly an inch of rain must have fallen, bringing about in this brief space of time a remarkable change in the appearance of the landscape. The dry creek ran with water and the playa below was changed into a shallow lake, the frogs filling the air with their loud, 000 welcome voices. Next day in the afternoon we pulled out, though the ground, soaked with water, made travel heavy. Our wagon was stuck for half an hour, but after that we made our way fairly well, for the night's rain was found to have extended only a couple of miles westward. We arrived at our destination at dusk.

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

CHAPTER IV

THE GIANT CACTUS OR SAHUARO—THE SAHUARO FEAST AT NORIA —DANCING AND SINGING—THE MEDICINE LODGE—TOBACCO—WELL RECEIVED—DISSERTATIONS WITH THE INDIANS—AN ADVENTURE—AN ANCIENT FESTIVAL—NATIVE ORATORY—OBJECTION TO PHOTOGRAPHY—ARTISTIC GIFTS OF A NATIVE

THE giant cactus (*Cereus giganteus*), or sahuaro, which is the direct and indirect cause of such festivals as the one we were to witness, is by far the most noteworthy representative of plant life in the desert, being, in fact, one of the most remarkable plants on the globe. It reaches a height of forty to fifty feet, sometimes even more. At times the sahuaro appears as a single trunk, like a column, but more often branches of nearly the same thickness protrude from it, stretching upward arms lifted as in appeal. The evergreen trunk and branches have deep longitudinal furrows or flutes, armed with spines and wonderfully adapted for retaining moisture. Acting in a manner similar to that of the bellows of an accordion, these close together during drought and open again to receive moisture. 137

It avoids the great belt of sand dunes that stretches along the upper part of the Gulf of California, from Port Lobos westward, and ceases to appear south of the Gila Range and Sierra Blanca. Often a single column, the only one on a whole mountain, appears on top, resembling a sentinel on guard. At other times such a

137 single column has found the means of existence on some terrace on the mountain side, reminding an imaginative traveller of the ruins of a temple in Greece. Along the mountains east and south of Sonoita, Sonora, this cactus attains its most luxuriant growth. Here as well as near other ranges impressive forests of these gigantic, singular structures of the plant dominion appear, calling to mind creations from the carboniferous period.

In May the tips of the trunks and branches produce a multitude of superb cream-white flowers. Toward the end of June the famous sahuaro fruit appears, the size and shape of a large hen's egg. A spiny skin which is easily removed protects the juicy, crimson, and fleshy substance in which numerous black seeds are imbedded. Although possessing not quite as much flavor as the related and more famous pitahaya fruit of Mexico, the sahuaro is a palatable relish in the excessively hot and dry climate, containing also, like the pitahaya, considerable nourishment.

The violent storms of the desert make no impression on the giant cactus. However, one wonders that it can exist at all, since the fruit and the plant itself prove in many ways such an attraction to animals. As soon as the sweet fruits ripen they are attacked by birds, while those that fall to the ground are eaten by hungry and thirsty animals, which prevent the seeds from germinating. The woodpeckers make large cavities in the juicy pulp of the trunk, the plant protecting itself by growing a hard tissue all around the cavity, in which various kinds of owls, falcons, and fly-catchers make their nests;

here also bees deposit their honey and bats make their 137
homes. Sometimes rabbits attack the stem to get at the
juicy pulp.

To the Indians the sahuaro is invaluable, and by 222
tacit understanding they consider it a crime to cut one
down. The grateful fruit comes at a time when most
needed, and the Indians lea[illegible] their habitations to camp
among the sahuaro as long as the season lasts. Not only
does the fruit then furnish them with their principal
means of subsistence, but the greater part is boiled down [252
to a sirup for future consumption in the winter, serving 273]
also as material for an intoxicating drink, which is used
at the sahuaro festival. The seeds, too, are eaten after
having first been ground on the metate, and they taste
better than would be expected; the Indians also feed their
fowls with them and many sackfuls are brought back to
the houses after the sahuaro harvest. The wooden skeletons
or ribs of the sahuaro furnish the Papago with light, [342]
strong, and elastic building stuff, and from the same material
he makes the long stick which is needed to bring
the fruit down from its lofty elevation, coloring the pole
red with the juice of the fruit. Also chicken coops, chairs, [322]
traps, and similar articles of the household are manufactured
from sahuaro ribs. Even the wooden tissue bags [415]
produced by the woodpeckers are made to serve as water
bottles or drinking vessels.

So important a part does this cactus play in the life [805]
of the Papago that their year begins with the sahuaro
harvest. The season lasts from the middle of June till 222
the middle of July. Every rancheria is supposed to make 796

222 a feast for the occasion, which will insure rain and good
796 crops. An essential part of the festival is the drinking
of wine, produced by mixing the sahuaro sirup in a cer-
[273] tain proportion with water and allowing this to ferment. The name of this greatest festival of the year is *naváita*, derived from *návait,* their word for the wine.

Elder Brother, so their tradition runs, created the
222 sahuaro by placing beads of his perspiration in the
773 ground. He walked in ceremonial circuits around it for four days, and the plant began to give fruit. He also made a jar in which he put the juice of the fruit which he mixed with water. "Let us see if we can not make rain with this to refresh the thirsty soil," he said to the jar. And its contents became wine, and it began to rain, as he thought it would. Therefore, to this day, the Papago make sahuaro wine and celebrate a great feast in accordance with Elder Brother's commandments. The wine was given by him in order that they might get drunk, and then rain would follow.

On our arrival at the rancheria of Noria we learned
796 that the wine making had been started that morning. The festival was to begin in the evening, the singing and dancing lasting as usual for two nights, by the end of which time the wine would be ready for consumption. An hour after dark, as we were preparing our supper, a loud Indian voice from the other side of the arroyo on which we were camped sounded forth in the dark, still night, inviting people to gather for the festival. Standing in front of the medicine lodge, facing the east, the herald announced over and over again: "Darkness has

SAHUARO, OR GIANT CACTUS (*Cereus giganteus*)

SINGLE-COLUMN SAHUARO

SAHUARO, DRY, SHOWING ITS WOODEN STRUCTURE

[Facing p. 48]

796 already covered us a good while, it is now time to begin to sing and dance, and everybody bring tobacco."

We had three Indian guests at our meal, and afterward we all went over to the dancing place, or, as the Indians call it, the singing place (*njúikot; njúi*, sing), a level piece of ground always found in front of the medicine lodge. In the dim light a long string of eagle plumes hanging across the space between two upright poles from east to west could be discerned. Near the western pole a solitary fire was burning; two medicine-men were sitting there with their backs turned toward it and facing the east. Behind the fire, in the west, was the lodge, and in front of this stood a jacal, the light shed invariably [789] seen near the dwelling or lodge. They sat there immovable in mystic contemplation of rock crystals and queer objects which were spread before them on the ground, and by the aid of which rain is procured; among them, my informant said, was a small stone, translucent and bright, which few have seen. If rain is not near, the stone is very warm and has to be cooled and purified, an operation which the medicine men were about to undertake.

My attention was next attracted to a long basket of enormous proportions placed between east and west on the ground at the foot of the western pole, near the doctors. It was of the same oblong shape as the ordinary medicine basket of so many tribes, and serves as a receptacle for the sacred paraphernalia of the lodge. Here the string of eagle feathers hanging near by is kept during the year. It is provided with a cover of the same

796 material, considered by the Indians as its blanket, which, when the basket is in use, is placed on the ground for it to "sit" on.

Around these holy men and the fire and the long string of plumes that stretched across, danced men and women, holding each other by the hand and moving around in a circle. They marched in time, with firm steps, placing left foot behind right, and proceeding in this way against the sun's apparent movement. They all sang in
[534] unison and in time with their steps, the leader swinging a rattle, and he and those nearest to him exerting their lungs to their fullest capacity. There were always two or three walking ahead of him, as everybody was eager to be near the leader in order to catch the tune. In this
[533] advance guard there was also a female leader, a soprano. What a wealth of songs there is among these Indians! During the two nights new songs were presented all the time, not only new texts but even new, though somewhat similar, melodies. People were sitting or lying around the circle of dancers, stepping into it whenever their fancy moved them.

When four songs had been sung, taking about an
[276] hour, a short pause was made, and the performers would sit down, many of them smoking. After a few minutes, only the leader would rise, and, standing in front of the jacal with his face toward the east, he would sing one verse of the song they were going to take up next, this time in a low voice, just to refresh their memories. Then he would step forward, dancing again and bursting forth into loud singing, immediately joined by the multitude in

their enthusiastic efforts to make an impression on the 796
gods.

The next morning, when I went to inspect the place
in daylight, I found the leader and other functionaries
sleeping peacefully on the ground under the jacal in front
of the lodge, tired from their exertions of the night. I 273
was permitted to enter the lodge, where large earthenware
jars were standing full to overflowing with the precious
sahuaro fluid. A slight cavity had been dug in the
ground for each jar, serving as a receptacle and covered
with branches of greasewood upon which the jar rested
neatly. The reason for this arrangement, according to
the Indians, was to keep the fluid warm and because
they had always done it in this way. Heavy spume was
rising from most of the jars, showing that fermentation
was taking place. A fire was kept up in the lodge in
order that the temperature of the air should be even and
favorable for fermentation. The solemn function of
mixing the sahuaro sirup with water takes place in the
morning hours under the jacal outside.

The lodge was a circular, dome-shaped grass hut, the 344
ancient form of Papago habitation, examples of which
are still frequently seen in the central part of the Papagueria.
The lodge, however, is larger than the dwelling-house,
hence its name Kûki, "Big House." (*Ku*, big,
large.) This was rather a small one, twelve feet in diameter 356
and six feet high, and scrupulously clean inside.
The framework of these primitive houses consists of mezquite
posts; from two to four forked uprights in the middle
support the dome-shaped roof, which is made of sa-

344 huaro ribs, surmounted with greasewood twigs and some large coarse grass called sacâte colorado. The grass is kept in place by hoops of ocotillo inside and outside, placed at intervals of eight or ten inches. The top of the house is covered with earth.

344
354 The entrance is small, usually only two and one-half feet high and two feet wide, and is provided with a grass door which, when not in active use, leans up against the wall outside. To get in or out one is obliged to crawl on hands and knees. The fire is made in the centre, and there is no other escape for the smoke than the door, there being no window; as the people inside generally sit on the ground, the smoke does not trouble them; besides, as the house is warm, a large fire is not needed. In the summer these dwellings are delightfully cool, affording also excellent protection against the violent, though short-lasting, rain-storms of the desert.

344
[351] Usually a light stockade of ocotillo and other kinds of poles runs around the lodge to prevent the cattle from eating the grass of which it is made. In this house the youth are instructed in the traditions and beliefs of the [623] tribe, and here is discussed everything of more or less importance, meetings being held every evening of the year. The man who is in charge of the lodge and its sacred objects is elected for life. He lives near by and is [793] called Keeper of the Smoke, which means tobacco smoke. 276 The name for tobacco is *viv;* when used for certain sacred purposes it is called coyote tobacco (*pan vívuka*). The young plants are covered with greasewood branches, but the Papagoes nowadays rarely grow the weed and

usually commercial brands have to be resorted to. It is 276
smoked in corn husks. The leaves of *viopóli*, a bush in the foot-hills, are also sometimes smoked.

In the afternoon the leading men began to wake 680
from their slumber and, as there were many features of the feast I desired to have explained to me, I induced them to have a conference. Outside of the house of the Keeper of the Smoke there was some convenient shade [513]
and, stretched on a mat with the rest, I had a couple of hours of very interesting conversation. Many years amongst the Indians gave me some knowledge of the fundamental traits of their religious ideas, which evidently very much surprised those present. They had such fine faces, full of determination and sincerity! Ragged and poor though these people were, I could not help admiring the expression of their countenances, especially those of the principal men, flushed with enthusiasm attendant on the festival. They gave me clear and unequivocal answers. When I had finished all my questions one medicine-man said: "I suppose he is one of those white men who want us to give up all our ancient beliefs and customs." Assured on this point, they said they were glad to have me remain at the rancheria as long as I wished. They also informed me of a cal- [173]
endar record preserved by a man who lived in the Báboquivari Range. Of this I made a note as the object for an excursion.

"Might I see what was inside the long basket on the 778
dancing places?" I asked. This they could not very well do. Few of the Indians themselves had seen it, they

778 said, and they were not in a position to show me; perhaps the makai (medicine-men), who were coming to-night to tell when the rain would arrive, would show me. But to see those things was a risky affair, connected with possibilities of harm to the beholder. As we were returning to camp Pablo said to me: "Probably those Indians never before spoke like that to a white man."

796 The rest of the day was spent in a house to house canvass and many baskets were bought. In the evening Pablo and I again walked over to see the dancing which had commenced anew at dusk. He soon joined the dancers and evidently the "old Adam" reasserted itself within him, for he danced with fervor the whole night.

As one sees everything better by taking part oneself in the proceedings, I, too, broke into the circle, grabbing
[516] [535] those next to me by the hand. The orthodox way is to intertwine the fingers as one may see sailors do when they are ashore, or peasant girls of Norway when going to a dance in their finery. My white dress made me a conspicuous object in the dark night, and my dancing and singing evoked merriment among those sitting around. There was no difficulty in getting into the right tune, and my partners on either side, as well as the rest of those actively engaged, were too serious about their work to be distracted.

Just about the time that I entered into the performance, the medicine-men who were sitting with their legs crossed in front of the fire began to show activity. One of them suddenly bent forward and put his mouth near

the sacred translucent stone that was lying before him; 796
then he began to breathe forcibly and to blow over it, emitting at the same time a peculiar sound, which made it difficult for me to refrain from laughing. The stone, which had become warm through the long drought, was now being cooled and cleaned that it might attract rain. For fully ten minutes he remained thus at work; then both medicine men stood up and, holding eagle plumes in their hands, began to run around inside our circle, all the time thrusting the plumes upward toward the sky to draw rain-clouds. It is curious to reflect that Indians as intelligent as the Papago should so absolutely believe in the power of the medicine-men to make rain. In regard to man's relations to nature, the Indians have, since the discovery of America, learned nothing and forgotten nothing, and it will take many centuries to change their mode of thinking.

After an hour's dancing I went alone to my camp 000
where my sleeping cot was awaiting me. It is a folding one and, when put up, stands high above the ground, which is convenient both in case of moisture of the ground and as a precaution against noxious creatures, such as scorpions, etc. The moon was shining, the night was warm, and I went to sleep under the open sky, as my custom is in this climate, rejoicing at the feeling of security one has while among Indians who have not been too much with whites. I must have been sleeping quite a while when I was awakened by the violent barking of my dog. On opening my eyes I beheld the disagreeable sight of a tall, half-nude Indian standing beside me in

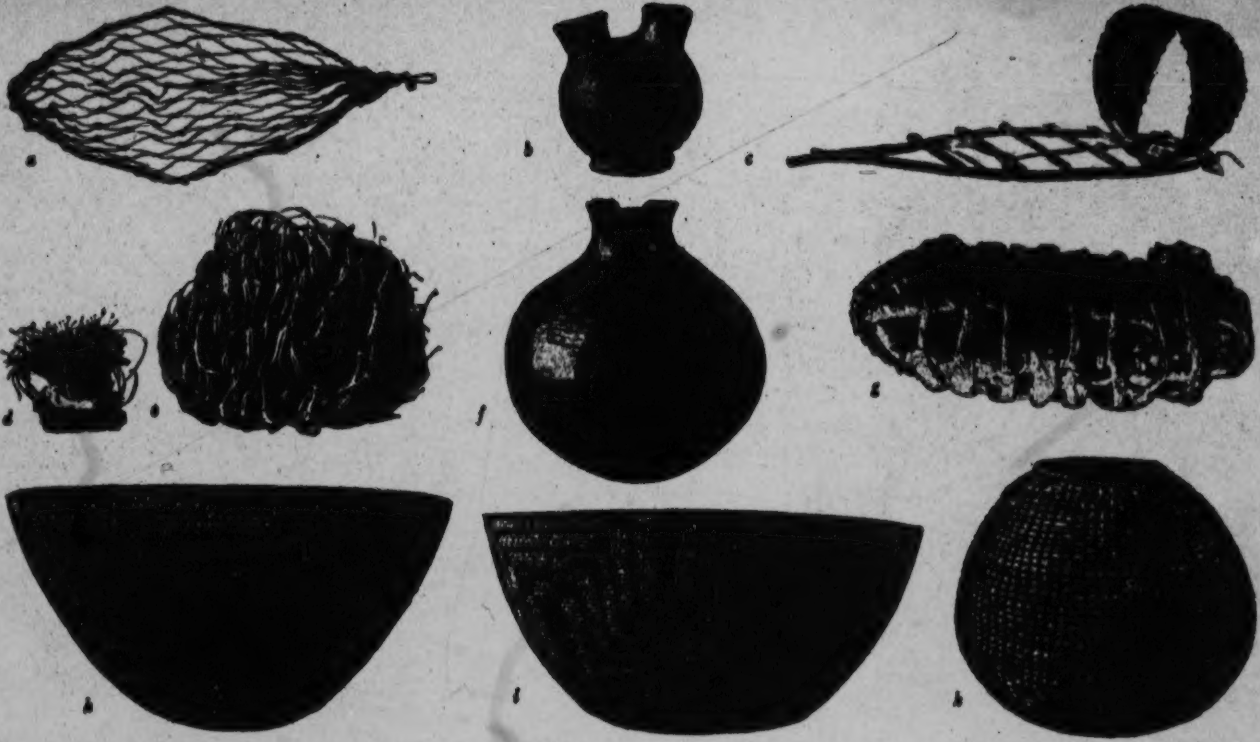
000 the moonlight. "*Compañero*," he said, ejaculating a few more words in unintelligible Spanish, at the same time thrusting forward a big open bottle with bright red contents, the smell of which at once made me aware of the
576 situation. He was offering me sahuaro wine as a proof of his esteem. But he might have chosen a more reasonable hour for his hospitality, so I bluntly answered: "No; I will have nothing until I get up." He disappeared among the bushes as quietly as he had come; in fact, he did not give me time to ascertain what had become of him, and it seemed like an unpleasant dream. However, being desirous of getting some rest before the ceremonies that were sure to take place at sunrise, I fell asleep again after a while.

796 The wine did not mature as early as expected, and in the morning one of the principal men told the people to
805 gather when the sun would be half-way between noon and sunset, when the culmination of the feast would take place. One of the Indians confided to me that the people thought I was all right; I danced with the proper step. Gradually crowds began to assemble, many of the young men on horseback; slender of figure but above medium height, they were of prepossessing appearance, sitting erect and following well the movements of the horse.
177 Everybody was in his best attire, all adopted from the whites, and everybody, both men and women, looked clean. But there was no hurry about anything. After a few hours passed in this way, the Keeper of the Smoke, who was the general manager of all the proceedings, was seen to spread out blankets and mats on the dancing

7: Lumholtz N-5 (1909-1910) 1912

NU28 Papago NU28

[Facing p.56]



PAPAGO ETHNOLOGY

a, Saddle-bag of coarse fibre; length, 1.57 metres. b, Canteen of pottery ware, used when working in the field; height, 17 ctm. c, Cradle, with detachable hood; length, 56 ctm. d, Bundle of martynia pods, split and ready for use; they furnish the black color in basketry. e, Bundle of martynia pods, stored for future use. f, Water jar; height, 34 ctm. g, Package of dried squash bands; length, 31 ctm. h, height, 29 ctm. i, sahuaro baskets, water-tight, used in harvesting sahuaro fruit and in wine-making. k, Granary basket for keeping maize, wheat, etc.; height, 60 ctm.

285
415
854

796 place, at each of the four corners of the world, to use the Indian expression. The principal men seated themselves on the mats toward north and south; the two medicine-men sat down on the eastern mat, and the Keeper of the Smoke on the western.

The multitude surged forward and took their seats, on the ground, I among them, all forming an imposing [823] square that symbolized the four corners of the world, each of the four mats in that way remaining in the middle of a line of the square. Hardly had we seated ourselves before the vessels containing the wine were brought inside of the square from the lodge by four young men, each one carrying a vessel. This wine should have been carried in those large, beautiful, water-tight baskets of native workmanship, but, alas, there was only one of those, an indication of the declining days of the tribe. The remainder of the receptacles were replaced by three inappropriate looking buckets bought in the white man's store, more practical, to be sure, but infinitely more ugly than those superb baskets decorated with artistic designs. The young men went straight across the dancing place to the two medicine men in the east, who immediately set to work to bless the contents, driving out any evil spirit that the vessels might contain. This they accomplished by making slow strokes with the palms of the hands around the vessels from in front back toward themselves. They also sacrificed a little of the contents to the gods, dipping their hands into the liquor and throwing some of it about. It was done in a desultory fashion, showing, as one man explained to me, that they

796 did not know their business well. The tribe, as I have already said, is daily losing its ancient beliefs and customs.

The distribution now began. The young men went in pairs, stopping before every one in his turn; each of the two would dip a gourd into the wine and hand it over. The recipient would, before drinking, lift it up toward the young man, saying: "*Návatsh!*" (friend!); if he were a relative, he would address him by the name of the relationship. It was evident from the beaming smile on the faces of those who drank that the wine awoke much satisfaction. My turn also came and I must confess that in this dry and hot climate, the beverage, when well made, and coming cool from the jars, does not taste at all bad, though I soon grew tired of it.

Four times in this manner had the young men made the rounds of the square, offering the wine quickly and with much precision, when two old men appeared on the scene. They advanced from the lodge, holding each other by the hand, fingers intertwined, and, beginning at the east, went in turn to each of the different mats where
[173] the principal men were sitting. The mat is called *váaki*, which connects us with the mythical long ago when the hunter put up a small round house of that name near water, in which he stayed during the heat of the day. At each corner of the world is a váaki or hunter's lodge.
[551] At each such "house" a long speech was made by one of the two old men, whose name was "Mocking Bird Talk." Addressing the most important man on the mat by his degree of relationship, or as a friend, as the case might be, he tells him to look for a white, shining house

in the east, from where black clouds come. "The black clouds have many inclinations in different directions and we can, by our singing, turn them toward us and influence the winds to make this poor earth moist" he says. Then he asks for a song, and in response the group sitting on that mat sings about rain. After having in the same way solicited songs from the rest of the groups, seated at the cardinal points, and received immediate and enthusiastic answers by invariably well-executed songs, the old men return to the lodge. 796

They immediately, however, come back for a similar round of visits, the speaker this time asking for an expression of friendship for himself. Every one answers "friend!" or gives him his degree of relationship. Next, the groups on the four mats sing in turn and, after that, wine is again offered around four times. 572

The pair of old men reappear and the speaker again admonishes those on the mats to look for the shining house in the east, where the black clouds are. A wonderful cloud reaches up to heaven and in it lives the mocking-bird. He comes out, jumps around, puts his head back and talks. "Through your strength," he says, addressing the mocking-bird as if present, "come all the clouds that are, all the winds that are, all the lightning, all the thunder. From all the mountains spring up other clouds joining the rest. It matters not how wide the earth is, the clouds touch all the sides. It matters not how many sierras there are, the clouds cover them all. It matters not how many arroyos there are side by side, the clouds cut across them; nor does it [825]

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

796 matter how many small arroyos there are, the clouds cover them all. When the rain comes down, the flood carries along the sand and the loose trunks and the sticks and fallen branches, piling it all up. The clouds and the winds get up and stop in the west, whence the rain spreads over this poor earth. When shall we see this again?" The speech was briefly answered at each mat, and from either side the friendship which they all felt for each other was emphasized. The singing was quite enjoyable and there was a pleasing atmosphere of antiquity about the proceedings. Finally, the chief arose to make a speech in which he warned every one to behave properly while partaking of the wine which had been brewed in the houses.

The official part of the festival now being over, people repaired to the houses, where the sahuaro wine flowed through the evening and night. Friends from the neighboring country added to the merriment. Both men and women become intoxicated on such occasions, and, formerly, quarrels of long standing were settled at the feast according to the laws of the vendetta. Murder used to [622] be of frequent occurrence, but, to prevent the possibility of quarrels ending in a fatal way, the chiefs of our time are wise enough to gather up beforehand all the knives, pistols, and rifles, returning them to the owners after the conclusion of the festival.

222 It should be noted that in March, about the time of the equinox, a ceremony, accompanied by singing, is performed to insure a good sahuaro harvest. Seeds of the fruit are ground and put in a basket into which also

four sticks, taken from the dried plant, are placed, one 222
at each cardinal point. Sitting around the basket, people spend a night singing, while the medicine-man makes prognostications for the coming harvest. The seeds are eaten by those present, and the four sticks are given to four persons who later, when the season comes around, leave them at the foot of a sahuaro.

As soon as the Indians were rested enough after the 124
celebrations that ended the festival, I had an interview with Chief Alvina, whom I found to be conscientious about the information he imparted, and in a charmingly sincere way not afraid of telling anything. His father, who had died two years before, had been chief before him. The Papagoes declined to tell anything about their beliefs and ancient customs, he said, but he could see no harm in letting strangers know about them. Unfortunately for me, his knowledge of those matters was not commensurate with his liberality. Furthermore, he al- 774
ways told his people that there was no harm in being photographed. Their fear he could not comprehend. He had himself been photographed many times, and he never inquired as to what they were going to do with his photograph.

It was a very exceptional stand he had taken; as a rule, the Papagoes have the greatest objection to the camera. They are not afraid of it, but are intensely annoyed at the photographer's efforts, because, in their opinion, part of themselves will be taken away and will always remain behind after death, causing much disturbance to the departed, who in that way will be, so

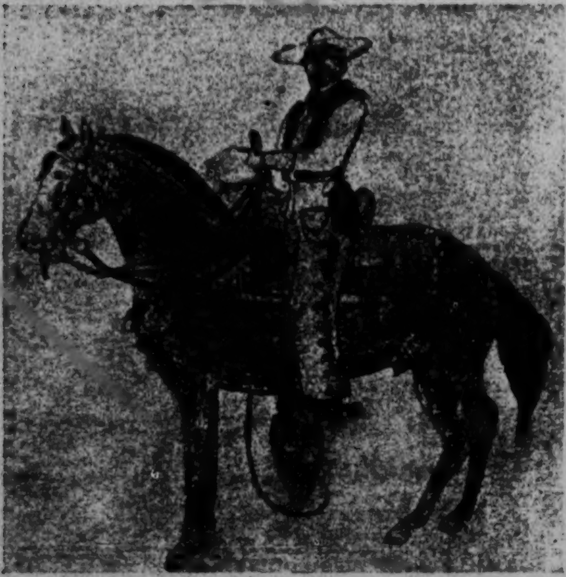
7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

774 to speak, only three-quarters complete in the other life. Usually the people ran away from my kodak, and it was extremely difficult to photograph them unawares, as they are very keen and in a way scent the impending danger. A young, good-looking man, of whom I asked permission to take a quick photograph, surprised me by answering in the affirmative. He entered his house to get ready for the fray, saying to his wife, "I am going to have my picture taken. I am a man and I am not afraid of seeing myself after death."

124 I kept the honest chief till late in the afternoon, when he was obliged to go to his sahuaro camp, near the south end of the Quijotoa Range. He offered to return the following day, but I thought it better to look him up later on. There was present at the interview a man who had acted as a singing shaman at the feast, Juanito by name. He owned a few head of cattle and some horses, and had been much with whites, hauling wood or doing similar work, but in spite of this he spoke no English and only a few Spanish words. It was he who in the excitement of the feast had waked me up in the middle
124 of the night. Some twelve years ago Juanito had seen
532 a Mexican make a drawing, and last year it had occurred to him to try his hand at this accomplishment, which had made a strong impression on him. Considering that this was his first and only effort with the pencil, the product was by no means discreditable. His brother posed for him on horseback for half an hour, in order that Juanito might get a clear conception of the subject he was going to draw. Strange to say, he did not draw

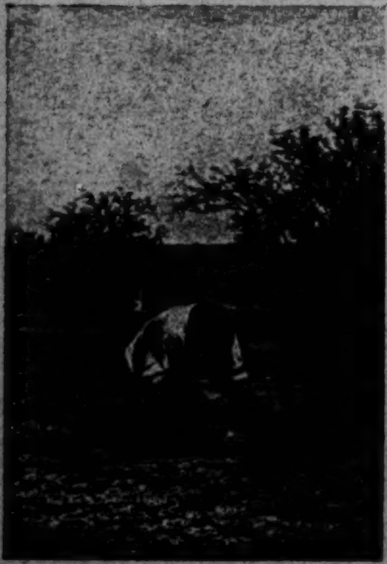
7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

532



Picture drawn by an untutored Papago

241
291
516



Using the ancient hoe

Mother with child in cradle. Aktjin

[Facing p. 62]

124 him then, but during the following three days he worked
532 at the drawing from memory in his spare time, being
mostly occupied in his field and with his cattle. After long deliberation, he finally consented to part with the picture which is shown on plate. The horse is painted with red ochre and the necktie is blue, the color having been bought in an American store. The artist was about fifty years old.

241 Following a fairly good wagon road eastward through
312 the Comobabi Mountains, I first halted at a rancheria
called "Badger's Well," where I found all the old people absent in the sahuaro fields. The younger generation, inclined toward the white man's ways, offered little of interest. They spent much of their time in laughter and animated talk at the well, where they watered their cattle and horses. I noticed a quail creeping stealthily to drink from the overflow of the water, a few yards from the well. Its thirst was quickly satisfied, when it retired to safety among the bushes.

492 A man sold me a spur made from the cleft of a mezquite bush. It has a very sharp point, which is most efficient, though cruel. Only one foot is thus provided.
316 A negro came along, a rather strange appearance in this part of the country; he told of a silver mine four miles east of there that he and half a dozen of his race owned. It had been found by one of them who had been a prospector for eight years.

764 There were many ants in my camp, so I was glad to pack up in the morning. A visit was first made to the burial place, which was of the usual unattractive de-

764 scription, in this case almost hidden under huge piles of
palo verde branches. A tiny enclosure of upright oco-
[797] tillo stems was pointed out to me as the modern ceme-
tery, due to the teaching of the missionary. Bundles of
clothing to be used by the deceased had been placed
among the branches of trees near both cemeteries.

CHAPTER V

COMOBABI—AN ATTRACTIVE INDIAN FAMILY—MARIANITA—A HORNED LIZARD THAT SPURTS BLOOD THROUGH THE EYE—AN ABORIGINAL WAY OF RECORDING EVENTS—THE PAPAGO CALENDAR—HARVESTING SAHUARO—HOW TO KEEP COMFORTABLE IN GREAT HEAT—A VISIT TO CHIEF ALVINA

Our next halting place was made at the rancheria of 361
Comobabi, comprising a somewhat extensive area on a
beautiful slope at the foot of the mountains. Most of
the houses here, too, were temporarily abandoned on
account of the sahuaro harvest. Early in the afternoon 574
we drove up to a house which impressed us as being the
most hospitable looking; the family were just seating
themselves on the ground outside, to eat tortillas and [262]
beans, the husband standing near by with his horse
saddled. They received us as if we had always known
them, although Pablo had not met them before. We
were invited to share their food, and, as soon as they
were made to understand that I wanted to buy all sorts
of Indian things, they cheerfully produced whatever they
had. I purchased two bags full of certain eatable seeds,
which I had much desired to procure, also a meal basket
made by the thirteen-year-old daughter, who had the
sweet-sounding name of Marianita, although neither [551]
Spanish nor English was among the family accomplishments.

285 The lady of the house had in active use two of those
482 peculiar burden baskets called *kibo*, in which the women
carry on their backs loads of wood, gourds, or pottery,
as the case may be. It consists of an attractive looking
net-work of mescal fibre, which has been produced from
the leaves after they have been first boiled. The net is
attached to a hoop which is fastened between four long
poles of sahuaro ribs and is supported by a woven band
of strips of zotol leaves that passes over the forehead.
[492] This contrivance is getting to be rare in the Papago country,
with the introduction of mules and horses, and the
woman who owns one is with difficulty induced to sell it.
She spends considerable time in its manufacture, and in
an old-fashioned family like the present it is of very great
302 usefulness in every-day life. The black twine was from
her children's hair, which she cut once a year until they
were about twelve years old. I expressed an ardent desire
to buy one that was standing outside of the house
against the wall, and, after having thought the matter
over for a couple of hours, she decided to sell the most
used one for five dollars, though she hated to do so; for
an additional fifty cents she would mend the net-work
and put in a new plaited band for the back and the head.
The offer was promptly accepted.

361 Pablo and I made a tour of the houses of the ran-
124 cheria, some of them being three-quarters of a mile away.
[887] In two of them we found only old deaf women at home,
the rest of the families being at the harvest of the savory
cactus fruit. On our return, toward sunset, our Indian
573 friend and little Marianita were busily engaged in wash-

ing a large sleeping mat, plaited from zotol leaves in the 573
usual manner, which I had also bought. Another, a
smaller daughter, sat near by, while on the roof the third 124
child, a boy of eight summers, was romping in a short
shirt, throwing stones and looking picturesque against
the blue sky and the mountains of Baboquivari. One's
photographic propensities are sorely tried under such
tempting circumstances. As we approached, the boy
descended. Pablo, at my bidding, engaged the family
in conversation and I tried to avoid observation while
taking snapshots, for, if seen, that would have put a
speedy end to the friendship so happily begun.

This was an attractive family that carried one's
thoughts back to the Indian of long ago. The mother
seemed the incarnation of sterling qualities, well meaning,
intelligent, and active. She had quite an eye to
business, but she asked fair prices. She looked about
fifty, the picture of health, and had borne thirteen children,
nine of whom were alive; many of these were
full-grown and the youngest was six years old. Her
husband, who was as friendly as his wife, or even more [551]
so, had a peculiar name, Piukváotam, "He cannot be
eaten" (because bitter to the taste). This probably expresses
some characteristic of antipathy which I failed
to discover, the Indians being extremely critical in their
application of names.

It was the 10th of July; for several days the maximum 132
temperature had remained at about 100° F. A
moist wind, somewhat cooler, had been blowing too
gently for real comfort, but that day about sunset the

132 air currents changed and became dry. In the evening the temperature felt just right, about 85° F., and the air, at an elevation of four thousand feet, had the superb quality of the desert.

000 I had selected my camp a couple of hundred yards L from the house, on a sandy, level ground among small mezquite trees and choyas. The sandy surface was as clean as if man had never walked over it; the Indians on their way to and from the distant well at the foot of the mountains all followed the same track, and there were no waste paper and tin cans strewn about to impair the full enjoyment of nature, as would have been the case near civilized man's abodes.

The attractive camp, the nice family we had met, the addition to my collections, the peace and quiet of the place made me feel happy as I stretched myself on my cot under the starlit sky, which seemed so blue and cool and near. A soft breeze from the west fanned me to sleep, while a mocking-bird kept on singing its most delightful notes in the dark night. Ye dwellers in cities know not what it is to feel your freedom!

Next morning, shortly after sunrise, I strolled over to the house to see what my Indian friends were doing. 285 The mother was busy at work repairing the burden basket she had sold me. She was just finishing a new band for the back, which is plaited in the same manner as the sleeping mat and from the same material. Some Indi- 241 ans rode up offering for sale a most interesting wooden object that resembled a broadsword, and which may be termed a hoe, made of the heavy iron-wood and accordingly very strong. This implement, which is called *kiik*, 241 the same word as that for plough, had, according to my informants, been found in a mound in Santa Rosa valley. It is extremely rare, though I later succeeded in securing, mainly in the rancherias of Santa Rosa and Ánekam, ten specimens more which were kept in the houses of the Indians. It is not quite appropriate to call this implement a hoe, as it was employed solely for the purpose of weeding. Although I did not see it in active use, people in that section of the country know it very well. Probably it is occasionally still resorted to. The showers, which in that hot climate make plants grow very fast, bring forth in luxuriance weeds that, unless twice removed, would choke the crops. For the more recent innovation of wheat agriculture during the winter, one weeding is sufficient.

When in use the wooden hoe is held by both hands in a more or less horizontal position, the left hand around the handle, the right on the blade, while the bearer crawls on his knees and cuts in between the weeds, loosening the roots and turning them up. I found a simpler form of the same implement, smaller in size and consisting of a flat, oblong piece of wood with edge sharpened in a similar way, which was said to have been for the use of women.

On returning with milk which he had bought from 312 the friendly family, Pablo told me that Marianita, the young girl, had gone to the well for water, a mile away, and that I might have a chance to take a snapshot of her when she returned. After a while she appeared at a 000

After a while she[1] appeared at a
482 distance with a big tin bucket on her head, but how much
512 more beautiful my small Rebecca would have looked
carrying an earthen-ware jar of native workmanship. There are lots of pottery vessels still manufactured by the Papagoes, but the white man's implements are recognized to be more practical. I suppose the change is unavoidable, but the bucket was distinctly disappointing to my photographic sense. Before she approached my vantage point, an Indian met her who evidently asked for a drink, for he lifted the heavy bucket down, drank, and put it on her head again. When I gave her some candy after the short and unexpected ordeal, she looked frightened. She stepped along quickly, showing somewhat that she felt the weight that she had been carrying for fifteen minutes. This was six o'clock in the morning and, on rising, she had first helped her mother milk the cows.

Half an hour afterward she again passed my camp; this time she was bound for the sahuaro fields along the base of the mountains. The girl of thirteen years walked fast, carrying over one shoulder the long stick with which the fruit is brought down. Two hours later she returned with a small bucket full of the juicy fruit, on which a newly arrived guest and the rest of the family gorged themselves, while she sat near by resting. She did not look tired, however, and I saw her later helping
[177] her mother make wheat biscuits, baking them in an oven
adopted from the Mexicans.

124 It was a great pleasure to be with these natural people.
553 774 I sang to them my newly acquired Papago song, "The

[1] [i.e., Marianita, a young Papago girl. -Analyst]

Frog Doctor," one that is used at the sahuaro festival, [532] 124 and ingratiated myself in their favor. The mother, al- 774 ways busy in doing something about the house, was engagingly free and easy in her manner. I ventured to ask if I might not photograph her; she looked disturbed, but after a while consented if I would promise not to show her picture in Tucson. She had the burden basket on [482] her head, appropriately enough for a woman of energy and activity, but her whole being had suddenly changed, and it was impossible to make her walk and look natural. Her face was flushed, she looked embarrassed, and made a poor picture.

In spite of presents to the children, they all steadfastly declined to be photographed. However, sitting down to catalogue my lately acquired ethnological objects in the shade of a jacal, I found opportunities for snapshots while pretending to write. When Pablo took the horses and my dog to the well, I hugely enjoyed a rub down from my wash basin, as well as a change of clothing, and soon we were off again on the road.

At this rancheria I had a curious experience in the 136 morning with a horned lizard (*phrynosoma*), rather dark in color, which my terrier pursued for eight or ten yards, when it flattened itself out and refused to run any more. The dog was watching for it to move and I stepped up. When put on its back it would immediately turn over; stooping down, I tried in vain to tease it to run again, but it remained immobile. I was just about to rise and leave when, to my great surprise, a spray of what appeared to be blood was dashed on my right hand, which was

136 from eight to ten inches, not less than eight, distant from the animal. I did not notice whence the fluid came, but I observed that its left eye was bloody; in other ways it seemed normal, and had evidently not been maltreated by the dog, which feared its spines. On my return to civilization I find that the singular habit of ejecting blood from the eyes, peculiar to this animal, is known to the ranchmen of the region of its habitat, both Mexican and American, and that it also has been brought to the attention of men of science. It has been suggested that the habit is practised only during the time of the shedding of the skin.

231 The night spent at the next rancheria in the Baboquivari Range was disturbed by the constant, melancholy, low howling of a dog mourning the absence of the family. He was a very old dog, a black and white cur, with an honest-looking face. Usually Indian dogs have little reason for loving their masters, who show them small 133 consideration. After having visited a new Indian settlement called San Pedro, in the Roskruge Range, where there is excellent water in a well twenty-six feet deep, we continued our trip for six miles northward along the [137] western foot-hills. There are extensive sahuaro forests in this undulating country, which were unusually picturesque in the afternoon sun. We came across one or two camps of Indians who were gathering the much-relished fruit.

224 At dusk we met two young men on horseback returning from a shooting expedition, who presented us with 000 half a deer tenderloin and some ribs. My aim was to

137

Palo verde, near a Papago cemetery
Among its branches bundles of clothing for the departed

346

The medicine-lodge at Santa Rosa

[Facing p. 72]

000 reach the camp of the man who possessed the calendar record of which the Indians had told me. It grew pitch dark before our day's journey was over, a large blazing fire, which enlightened us as to the position of the
173 camp, guiding us from some distance. Our arrival
805 naturally caused surprise, but was easily explained, and the man promised to show his calendar stick the next morning.

This calendar, which, as far as I know, is the only one existing in the tribe, is an attempt at keeping a record of events by various marks on a wooden stick. Made from pine board, it is seventy-nine inches in length and one and one-quarter inches broad at the middle, narrowing toward the ends, and about an inch thick at the centre, which is the thickest.

159 The old man, when fifteen years of age, had taken it
805 into his head to begin a record of the events of his life, giving to each year a space of about an inch on the stick, separating one year from another by a transverse notch. He thus made one notch for each year that passed, and their number had now reached sixty-seven. The events of the year are depicted by crosses, dots, lines in various positions, as zigzags, angles, parallels, etc., and, as they have significance and meaning only to him, are less interesting from the point of view of the markings than from the events recorded. More than one kind of mark is rarely applied for each year. As the
159 record of happenings that appeared to him important,
173 accompanied by his own explanations, may be of interest, I shall give here the principal ones:

159 In 1849: Unusual snowfall, killing men and beasts.

173 In 1850: Successful attacks by the Apaches on the Maricopa at Red Rock, as well as on the Papago near Magdalena, Sonora. [721]

In 1851: Severe disease, called "black vomit," appeared. Its symptoms were painful fits and cramps. Dark-colored blood would flow from the mouth. When the sufferer vomited, it was a sign of relief. Many Indians died, including some medicine-men. (This may have been yellow fever.) [164]

[721] In 1852 and 1853: Papagoes repelled attacks by the Apaches in Arizona.

In 1854: Papagoes fought with the Apaches at Santa Ana, Sonora.

In 1855 and 1856: Death of relatives.

In 1857: American soldiers were killed by Mexicans at Caborca. (This alludes to the defeat of the filibusters under Captain Crabbe.)

In 1858: Birth of a girl relative. She afterward became makai (medicine-man.)

[505] In 1859: The Papagoes in the winter went to dance with the Pimas, below Sacaton, in order to secure wheat. (It was also the custom for the Pima to help at the feasts of the Papago, the reward being in either case grain or domestic animals.)

In 1860: Prominent chief died.

In 1861: Papagoes in Mexico engaged the Apaches and were victorious. The booty, consisting of shields, bows, and arrows, was sold to the Mexicans for mescal brandy and maize. [721]

In 1862: A fight with the Apaches in Mexico.

In 1863: His first marriage took place.

In 1864: His first child was born.

In 1865: Apaches captured one Papago, who later escaped.

In 1871: Apaches made peace with the whites at Arivaipa.

In 1874: Apaches attacked San Xavier.

In 1875: Ball games with foot-racing at Caborca, Sonora. He won in betting, one horse, saddle, and bridle.

[164] In 1876: Disease, accompanied by the loss of hair. Many died. (Perhaps this was typhoid fever.)

In 1880: The railroad arrived at Tucson.

In 1881: A relative became crazy, killed his wife with a knife, and then himself. 159 173

In 1882: First *fiesta* in Mexican fashion took place at a rancheria which formerly existed where at present the Indian Oasis is. (This means that the Indians of Arizona began to adopt the social gathering in use among the Mexicans, without imparting any religious importance to the festival. A fiesta among Mexicans always includes dancing, which, in our time, has been adopted by the Papagoes of Sonora, but generally not in Arizona. On the occasion related, the people danced one by one in a circle.)

In 1885: A visit to a Pima feast. Many singers went, and many others, all well dressed. [527]

In 1887: An earthquake in the "flowers disappear" moon. [133]

In 1889: The Pima took part in a dance in order to secure cattle. This was in the "dry grass" moon.

In 1890: A feast at San Xavier in the "dry grass moon."

In 1891: San Xavier Indians came to dance at Kvitatk (near the "Pump-house" near Horseshoe).

In 1893: A foot-race at Kvítatk in "inner bone" moon (winter). The racers starting in the middle of the day, ran as far as Santa Rosa, returning at dark (about 8 P.M.). [526]

In 1897: Foot-races at Åktjïn.

In 1898: Two nephews put in prison in Yuma for smuggling mescal brandy.

In 1899: Two relatives imprisoned in Tucson for stealing cattle.

In 1901: He was isolated at Tucson on account of small-pox in the family. [164]

In 1902: A foot-race at Tjeavólitak.

In 1903: A foot-race at Kvítatk.

In 1904: The purification of girls in the winter. [783]

In 1907: His friends put in jail for fighting at a sahuaro feast at Kvítatk.

In 1908: Many Papagoes that were attending the fiesta of San Francisco in Magdalena, Sonora, were imprisoned for resisting the Mexican authorities when being pressed into military service to fight the Yaqui. A chief from San Xavier went down to Magdalena and helped them to get out.

159 During recent years he has been blind, but a friend and his wife have assisted him in placing marks according to his directions. The event of this ensuing year would be the visit of "Carlos" to his sahuaro camp, he 805 said. I append here the Papago calendar which divides the year into thirteen "moons," or *marsat* in the native language.

THE PAPAGO CALENDAR

1. Tonjapik Marsat, Hot Moon (*tonj*, hot).
2. Tjokiapik Marsat, Rainy Moon.
3. Shópol Usapik Marsat, Short Planting Moon.
4. Vársa Kakitak Marsat, Dry Grass Moon (*kákitak*, dry).
5. Vihamik Marsat, Touches Mildly Moon. (The cold touches mildly.)
6. Jómali Súipitik Marsat, Low Cold Moon (*jómali*, low).
7. Úta Váokat Marsat, Inner Bone Moon. (The middle of the winter.) It is also called Ku Súipitik, Big Cold.
8. Óvalik Marsat, In Heat Moon. (When the animals are in heat.)
9. Kíhotak Marsat (untranslatable). Meaning: When the animals have lost their fat.
10. Kómaki Marsat, Gray Moon (*kómak*, gray). (When the trees are without leaves.)
11. Tjuutáki Marsat, Green Moon (*stjuutak*, light blue or light green).
12. Oám Marsat, Yellow Moon (usually *suváni*, yellow). (Yellow flowers on trees, bushes, and plants, such as the palo verde, the greasewood, century plants and cacti.)
13. Hikokiapik Marsat, Flowers Disappear Moon. (Plants begin to make fruit.)

124 The old man was amply rewarded for his interview and consented to be photographed, though his wife, with the usual Papago ignorance of money value, prevented

me from finishing the operation by telling him to ask 124
eight additional dollars for his consent.

Their camp consisted simply of a roof of branches 342
resting on four poles, sufficient to provide some shade
during the day. Early in the morning all the female 222
members of the household could be seen proceeding on 251
their fruit-gathering expedition, each armed with a large 415
basket and the usual pole, about twenty feet long and
made from two pieces of sahuaro rib. At the top of the
pole, as well as lower down, there is a kind of hook
made by tying crosswise in these two places a small
piece of greasewood by the aid of which the spiny fruit
is broken off. Two or three hours later they returned,
each carrying on her head her share of a heavy har- [482]
vest. The skin with its spines had been removed in
the field, so the inside of the huge water-tight basket presented an appetizing mass of crimson fruit pulp, as well as a great amount of similarly colored juice, which would keep for a few hours only. Most of the contents of the baskets was immediately emptied into large jars, to be boiled for about two hours, when the mass is strained in order to separate the numerous small black seeds. The juice is boiled for hours longer until it becomes sirup (*sítoli*), which is kept for future use in small earthen-ware jars, each neatly sealed with a piece of broken pottery and sticky mud. Being pleasant to the taste and much superior to molasses, I found this sirup excellent as part of my provisions. I also relished the fresh juice of the fruit when brought in cool in the morning.

132 I had taken my notes in a temperature of 107° F. in the shade of the jacal; at dawn that day the temperature had been 74° F. and I actually awoke from feeling cold. During the previous five days the maximum temperature had been above 100° F., and the heat still continued as high for three days more. No clouds had appeared for several evenings and the rains were delayed. It certainly felt warm as we travelled along on our return journey to San Pedro. No shade, as that word is understood in other climes, is found anywhere; the palo verde is seldom very serviceable for this purpose, and the best tree for shade is the mezquite, but on such days as these the fierce rays of the sun easily penetrate its somewhat scanty foliage, even the ground underneath the tree becoming
600 heated. It was difficult to make the air circulate under our wagon cover, and we found ourselves in a heat as great as that of a Turkish bath. Still it is good policy to make the most of every favoring circumstance, so we always stopped for lunch near some mezquite tree, built a fire by which we made coffee, and had some canned goods and puffed wheat with evaporated milk to eat. The coffee especially, when made well, was very acceptable. After that we continued our journey greatly refreshed and actually cooler. My dog, however, did not know what to do with himself, refusing steadfastly to eat during the day; his favorite place was in the wagon, under the seat, on top of a box.

132 On July 15 the oppressive heat was lessened toward evening by a violent storm from the south-east, which darkened the atmosphere first with dust, then an hour

later with welcome black clouds which poured down 132
considerable rain. The storm passed from Indian Oasis
over Tucson, where, as I later learned, it damaged the
roof of the new hotel. Some more rain the following 600
evening and night made the outlook bright for continued
travel. We were soon on the road again westward bound
for Chief Alvina's sahuaro camp. After the somewhat
vague indication as to its location being near the southern
part of the Quijotoa Range, we had been left to our own
instincts of orientation to find it.

On arriving at the so-called "Pump-house," near the 241
Quijotoa Range, I made a détour of thirteen miles south-
ward to the great summer rancheria Kuóitak (Big Field),
in order to make sure that the recent showers had not
already induced the chief to leave his sahuaro harvest
for agricultural pursuits. It was surprising to find such
a large cultivated area in the wilderness. It was over
two miles long, from east to west, and a half mile wide,
consisting, of course, of many small adjoining farms, all
fenced in by loosely made mezquite fences. The late
showers had certainly been effectual in bringing about
changes. Pools of water enlivened the landscape here
and there, and even some grass had begun to appear,
scarcely forty-eight hours after the rain. Birds were
singing in a lively manner, and there was spring in the
air, but evidently the Indians did not consider the rain
of sufficient quantity to justify them in beginning their
ploughing. In July or August, as soon as they are as-
sured of the soil being well soaked, they immediately
repair to their summer rancherias. So far, only one 000

070 family had arrived, so we continued our journey toward
the southern end of the Quijotoa Range.

136 In the evening mosquitoes and other insects gathered
around the lantern and small brown beetles crawled inside
of my trousers or through my hair, reminding me of
tropical climates. Next morning, before starting, I had
a refreshing bath in a small water-hole, while a butcherbird
(*lanius*) in a near-by bush sang with all his might,
apparently enjoying the changed conditions as much as
myself. This bird was often seen in the desert, often
132 far from water. Although the thermometer registered as
high as 92° F. in the warmest part of the day, still the
atmosphere, refreshed by the storms, felt remarkably
cool, and the weather was cloudy.

133 The southern part of the somewhat extensive Quijotoa
Range, separated from the rest, is called by the
Papago, Kihotóak (*kíbo*, burden basket; *tóak*, mountain),
said to be derived from its shape. The Spanish
name of the whole range is a corruption of this native
622 name. I was glad to find Chief Alvina in his camp,
which was in close proximity to great forests of sahuaro
on the slopes along the eastern base of the mountains.
[574] He brought me as a welcome some pitahaya fruit which
tasted remarkably well. All the rest of the fruit gatherers
had already left, for the sahuaro season was over, though
[137] there were still to be found pitahayas, the other savory
cactus fruit of the region. There was no pasture; our
horses fed on rolled oats, besides relishing the leaves of
the palo fierro (iron-wood) tree.

The chief was perfectly willing to be interviewed for

hours. He thought the number of the Papagoes was 622
decreasing. Few old men were seen any more. The
food which is gradually supplanting their native dishes
is injurious to the health of the Papago. Children were
no longer obedient. The young men nowadays are
seized with restlessness and want to leave for other parts
of the country; nobody takes care of them, and they die
early, he complained. We took a walk together, and he
pointed out to me the ripe nuts of the *jójoba*, a bush of 137
common occurrence in that country. They are eaten by [262]
the Indians and have rather a pleasant flavor. As they
contain a great deal of oil, they might compete with pea-
nuts in the oil industry of the world, were it not for the
slow growth of the bush. Mr. M. G. Levy, mine-owner
and store-keeper in Ajo, thinks that they will prove of
importance as cattle food and that they should be culti-
vated. Among the frontier population the oil has great
reputation as a hair restorer.

On two afternoons we had quite heavy showers, and [132]
I felt some regret at having disposed of my large, though
inconvenient tent at Indian Oasis, taking with me only
the fly. Pablo and I were drenched and so were our
blankets. It would have been difficult to make a fire
but for the presence of the small resinous bush called [137]
tovoso, which burned lustily in spite of being dripping
wet. We tore the bushes up entire and kept up a bon-
fire by which we dried ourselves and cooked our food. I
began to wonder whether this could truthfully be called
a desert.

CHAPTER VI

HORSESHOE IN THE QUIJOTOA RANGE—INDIANS AS MINERS—SPENDING A NIGHT UNDER DIFFICULTIES—DELIGHTFUL NATIVES—A WOMAN'S GAME—SANTA ROSA RANCHERIA—THE GREAT HARVEST FEAST OF SANTA ROSA

361 312 After an affectionate leave-taking from good Chief Alvina, we departed northward for Horseshoe, eating, as we travelled along, delicious pitahayas with which we had provided ourselves. Eight miles before arriving at our destination we passed on the llano the pump-house that had once been placed over a deep well, which, according to trustworthy information, is five hundred and twenty feet deep. It has an abundance of water from an undercurrent and was once the pulse of a short-lived, though intense, mining activity. If the information that reached me is correct, the discovery of a bonanza silver mine of very rich ore started a boom here nearly twenty years ago. Several thousand people gathered, the usual fabulous prices were paid for corner lots, and telegraph and telephone lines were established with Tucson. To-day the silence of death reigns here; the roads have been obliterated, the houses have disappeared, as also have the telegraph poles, and there is no sign of any former activity. I should have felt inclined to consider the whole thing a fable but for the unattractive remains of the pump-house, which the Indians have annexed, building a

few houses near it and naming their rancheria from the 361
tall chimney. Five miles north is a rancheria called 312
Sikulhímat ("where the water goes around." *Síkul*,
round). Here, according to the Indians, the drainage 133
of rain water flows toward the Gila River; south of that 823
place it flows toward Mexico.

Horseshoe is the name of a once noted placer mine, 316
the surface of which has been worked out. There are gold mines of a similar nature around the southern end of the Quijotoa Range. Judge Day has a store at Horseshoe and buys gold from the Indians, who still, during the winter, keep up the "dry-washing" process here, using for the purpose the machines that are common to the neighboring district of Altar, in Sonora. The Indians are even able to make the machines themselves. Judge Day is a man of intelligence and much common-sense, and, having lived here since 1893, was able to give reliable information about matters pertaining to the region. According to him the padres from San Xavier Mission, two hundred years ago, found the placer mines of Quijotoa. He showed me some nice nuggets of small sizes which he had lately bought. Five years ago the Indians found free gold in a piece of quartz which was worth one thousand six hundred dollars. After that eighty Papago and a few Yaqui Indians worked here for half a year, taking out in value between ten thousand and twelve thousand dollars, Judge Day buying most
of the gold. The relations between the miners—all 316
Indians—were cordial. When any of them had found 571
a rich spot, he would tell it to the others, and next morn-

316 ing the crowd would begin to work as near him as pos-
571 sible. No ill feeling or fights ensued; they would each
earn from four to five dollars a day. The miners when
515 coming home would always wash after changing their
clothes. Considering the trouble of getting water at the only well, their cleanliness may be considered an example even to whites. The women are particularly cleanly, and wash their own clothes frequently as well as those of their husbands.

181 Judge Day and his family, who have been living
577 here among the Indians for so long a time, gave very good reports of their neighbors. He had spent twenty-two years among Indians, and considered the Papago the safest. "As a rule, they are honest," he said, "though there are scalawags among them, but these are discredited by their own race. The women will steal trifles, picking up a rope or the like, but the men will seldom do that. The store often gives an Indian twenty dollars on credit, and he will apologize if he does not pay in ninety days. These Indians, like the Mexicans, are pleased to be in debt, because they consider it an honor to be trusted. If the average native *says* he will pay his debt, he will do so."

854 Like all Indians, the Papagoes are kind to their children, the father no less than the mother. An Indian couple were purchasing some articles in the store while I was present; their strong and fat infant was crying continuously in its mother's arms, she trying vainly to stop its wails. Finally, I saw her, with a few words, hand the babe to her husband, a boyish, good-

looking man and apparently younger than herself. He 854 took the howling nuisance gently and walked resolutely off into the hot sun. I wondered what was going to happen. He went straight to the well, gave the fretful youngster a bath, and returned in a few minutes with his purpose accomplished.

It may be of interest to note the manner in which the 000 daughter of the American family at Horseshoe, who when twelve or thirteen years old was in poor health, grew to be strong and well. Being brought up with the Indians, whose language she speaks, she taught herself the accomplishment of every Indian girl, to carry a water-jar on her head. This made her healthy, and now she weighs one hundred and fifty pounds.

To the north of here, only about six miles, travel- 361
ling by the track, is an important rancheria, Tjíuvak 487
("Where Something Decayed"), lying among low hills in the Quijotoa Range, where a road passes from east to west. I was desirous of seeing the best-known basket-maker who lives here, but she, like the rest, had just left for the summer ranch. The place looked much like a village, but was temporarily abandoned on account of the season, so we continued our journey northward by an excellent road that had been furnished mainly by nature. It was a slightly downhill drive, the country now almost imperceptibly sloping toward the Gila River.

We arrived late at a summer rancheria with the some- 574 what disconcerting native name, "Dead Old Man's Well." Here we expected to find the people of the win-

574 ter habitations we had just left behind. The night was pitch-dark with overhanging nimbus clouds, and thunder, more or less distant, was heard all around us. The air felt sultry and quite a strong wind had begun to blow, as if warning us of an advancing storm. Big fires were burning outside of the houses, which looked hospitable enough. But this was a night which one would not exactly like to pass out-of-doors, so I asked Pablo to hurry in and see if he could not secure a house in which we might have sleeping quarters. As good luck would have it, a friend of ours whose acquaintance we had made at the feast of Noria was here. He had come from the Comobabi Mountains to cultivate the fields with the rest, and he helped us to obtain lodgings for the night. A
574 small storehouse was placed at our disposal, and as we
343 drove up in the wagon some girls were busily carrying things out in order to give us more space inside.

343 It was a tiny shed, built of upright mezquite poles calked and plastered inside and outside with mud. The roof, which was made of sahuaro ribs and greasewood branches, with a cover of earth on top, was water-proof, all care having been taken to make it secure against the rain, for here the provisions of the family, their household goods, clothes, and other earthly possessions were stored. Air had access only through the door-opening, which was exactly one and a half feet wide. Owing to an all-day's summer sun the storehouse was extremely hot, and as I entered my lodging the temperature was so oppressive that it was almost stifling; still, as the wind was blowing with increased force and lightning at more

frequent intervals lit up the darkness outside, the little 343
house offered protection for the night, and gave a feeling of comfort such as our savage ancestors must have felt when resorting to a cave just in time to escape a drenching. Big jars, gourds, sacks containing maize, wheat, sahuaro seeds, and other edible wild seeds were lying about in the corners. There was not much space left, but by adjusting things our baggage was safely stored and we had our frugal supper while the rain poured down.

Pablo went to arrange for his bedding with the Ind- 000
ians, while I managed to place my cot backward from the door-opening, filling up all the space left. Near my
head, in a box in a corner, a hen with small chickens [235]
was sitting. She had a curious way of poking her beak against the box two or three times a minute, almost with the regularity of clock-work. It was as if the habit of using her beak to help feed her large family had grown on her to such an extent that she continued doing it automatically through the night. To listen to this became a nuisance, but I was too tired to allow it to interfere with my sleep. After a while I awoke from the intolerable heat, bathed in perspiration. I undid my bed to push it through the narrow opening, and leaving the hen to continue her pecking, put my cot outside where the rain had ceased. The air felt cool and fresh now, and at dawn even a feeling of chilliness interrupted my slumber, but I continued to sleep until after sunrise in spite of the cackling of fowls, the barking of dogs, and the Indians moving and talking all around me.

It was Sunday morning, July 25, and I awoke well

608 rested, though at an inconceivably late hour for that country, for the sun had been nearly half an hour above [462] the horizon. The men had gone to plough the fields, but lots of women and girls and a few young men had gathered waiting for me to get up. They had brought many objects, which they understood I wanted to buy. As soon as I opened my eyes two kinds of the medicine-man's rasping outfits, women's games, a splendid bull-roarer (see page 95), and other tempting things were presented for my approval.

609 The attitude of the natives was an unlooked-for delight. With the exception of the men who were unavoidably absent, the remainder of the four or five families that made up the rancheria seated themselves around me, showing much interest in my presence and eager to sell what they had brought. I distributed candy to every one, and much enthusiasm was evinced, the utmost good-will prevailing. Two elderly sisters, talkative and impulsive, were very intelligent in giving explanations of the articles offered for sale. One of them sat down on the ground and showed me how the medicine-man's rasping-sticks were used, at the same time rendering the ap- [412] propriate song. The other one, seizing a pair of wooden tweezers, which are used in pulling off certain edible cactus fruit, proceeded in a most graphic manner to demonstrate how the spines are rubbed off by the same implement, whereupon the fruit is placed in a basket and taken home to be cooked. Her quiet pantomime, full of humor, made matters clear beyond doubt unto the smallest detail, without her uttering a single word. She would

[Facing p. 88]

Showing how to swing the bull-roarer

Woman's game of double-ball

Papago woman, with her children, from Bisani, near Caborca

609 have done credit to any stage. It was a busy morning, and when the crowd saw us getting ready to eat our [264] belated breakfast, they considerately said, "Let us retire that they may eat." Pablo and I seated ourselves near the fire, and it was a small matter that the rice had been burned during the activities of the morning.

526 After a while, we had them all back again. The implements used in a woman's game were offered for sale. They comprised a small object, consisting of two short, thick sticks from the cat-claw tree, linked together in the middle by a twisted leather string. This *óla*, as they call it, has to be thrown with a thin pole, slightly curved at the point, and the movement must be made by applying the point between the two connecting sticks and then casting it upward. The game consists in throwing the object so as to reach a certain goal, the opposing party trying to prevent it. At my request, the woman with the imitative gift induced four young girls to show me how the game was played, and they immediately prepared for the fray. The colored bandannas were disengaged from around the head and tied around the [302] hips. The uncovering disclosed beautiful black hair, well-groomed *à la méxicaine*, parted in the middle, and hanging in two generous braids down the back. The next minute they all spat in their hands and smoothed their hair, then the game started. The girls played two against two. The óla was first thrown up in the air, the players standing ready opposite each other. The tactics of the opponents was to run with their backs turned against the others and strike the disputed ob-

526 ject with their poles. Each game was played with much agility and lasted only a few minutes, the participants keenly enjoying the sport. Formerly as many as twenty women on each side took part in this game.

774 I ventured to take snapshots and, strange to relate, it
524 was not resented. A boy showed me how to swing a bull-roarer, and we all had a good time. Though the
291 wearing apparel of these people and most of their utensils
191 came from the white man's store, still, neither English nor Spanish was spoken, only Papago. They behaved
609 something like natives who have not been much in contact with whites, and these "poor heathen" were the nicest Papagoes I met on my whole expedition. The entertaining crowd would sometimes retire as one man, then after a while they would return again; they were curious without being troublesome. One of the humorous
361 sisters told me that in the rancheria of Santa Rosa,
609 which was my next goal, there was much to be seen that would interest me, if I made friends with the principal men. She also had a house there, she said, which was at our disposal, and she gave us directions as to how to find it, for Santa Rosa was a big place.

361 It is, in fact, the largest summer rancheria in the Papago tribe, and people from several clusters of winter habitations gather here to the number of about five hundred. The houses are scattered over an area of nearly two miles square. Its native name is Kuâtshi (Big Peak). I entered this old-fashioned rancheria with much expectancy of gaining further knowledge of the beliefs and customs of these people. Water from the

recently fallen rain was standing in pools here and there 361 in the rough road. Inside of the rude mezquite fences a surprisingly large amount of weeds was flourishing, and beautifully green. In the midst of this mass of verdure the Indians were busy ploughing and sowing, the weeding being done later. Here and there a rain-storm might be seen at a distance, in the north, east, and south, but the atmosphere as a whole was clear, and everything looked beautiful in the late afternoon sun.

After some parleying and searching and travelling, 343 we found our Juan, a tall, strong-looking Indian with a benign expression of countenance. Near this man's house was to be our promised lodgement. He pointed out to us a large, dome-shaped straw house, of old style, about a hundred yards away. Crawling in through the door-opening, which was not quite two feet high, I found the inside very spacious. Provisions were stored here, and a large granary basket gave me joy at the prospect of its possible acquisition. The room was clean and cool. Nevertheless, being unusually dependent upon fresh air, I feared this would be a very inconvenient abode for me, so I crawled out again and addressed myself to an old man who was occupied outside in digging up and destroying the passages of some pernicious red ants. On our arrival I had noticed him clearing away rubbish 000 in front of an attractive little house near by made of upright poles so that the air had access everywhere. I proposed that he should rent me the little dwelling.

He readily consented, asking me to state a price, and I suggested fifty cents a day, which was promptly ac-

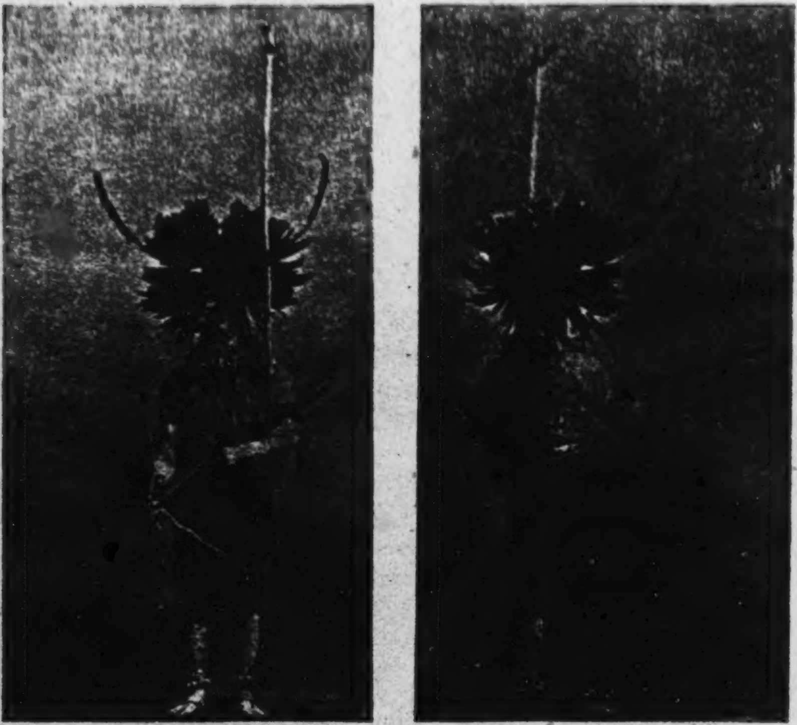
[illegible] cepted. He immediately commenced to move his things 343 out so as to give space enough for my cot. The tiny house had a good roof of greasewood branches covered with earth. A few yards in front of the door-opening, toward the west, was the usual arrangement of a jacal that provided a grateful shade. The Indians had arrived here only the day before, and the old man had [531] decorated the door-posts with fresh greasewood branches, which gave the modest habitation a festive and cheerful appearance. I felt comfortable in my new quarters, and prepared to stay here for several weeks.

124 Among the friends I gradually made was one whose civilized name was Simon, who became of great service in helping me to get specimens and information from the Indians. He made a good beginning himself by selling [292] me his clown's outfit, more or less complete, an unex- 796 pected discovery in these days when advancing civilization is destroying all the sacred emblems, customs, and beliefs of the natives. These were implements used at the great harvest feast, *víkita*, which is given every four years at Santa Rosa. The name is derived from the word *víiki*, by which is designated the finest and smallest plumes of the vulture. Manifold preparations are made for the event, which comes off in the "inner bone" moon, about November or December, after the harvesting of corn, beans, pumpkins, and melons. The participants dress up and practise their parts in a large, open, square enclosure of brushwood fences, where afterward many ceremonial objects which were carried about during the festivities are left. I was told that

7: Lumholtz N-5 (1909-1910) 1912

NU28 Papago NU28

292

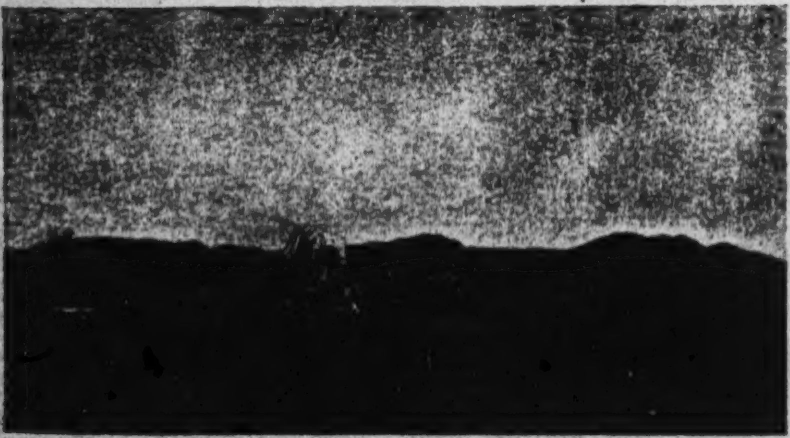


Front

Back

The clown at the great feast of Santa Rosa

343



My camp at Santa Rosa

[Facing p. 92]

796 sahuaro wine is not used during or after this great festival. 796 At Quitovac, in Sonora, an annual harvest feast, 536 called by the same name, is given in August; this is accompanied by the drinking of sahuaro wine.

As the name indicates, the clowns are the funny men of the occasion, and their apparel and weapons are in accordance with their functions. Their bows are crooked mezquite roots with strings attached. Their ridiculous-looking arrows, four for each, are made from sahuaro ribs, with turkey feathers as the plumed part; like the hunter, the clown has two kinds, but his are out of proportion, three being thin and one very stout. His bracelet may be a piece of unborn deerskin wrapped around 796 the wrist. 536 The most striking part of the costume is 532 the mask, which is made of canvas, like a hood that is drawn over the head; formerly perhaps basket work took the place, at least in parts, of the canvas. Small holes for the eyes have been pierced in it and the top is adorned with a large bunch of plumes from the turkey, hawk, and a black sea-bird. "Horns" made of turkey plumes are attached to the sides, soft down from a hawk being tied to the top. The decorations on the facial part of 796 the mask symbolize clouds. Under the clown's belt is 536 tucked a wooden machete, and large strings of sea-shells run over the shoulders across the chest and back. He wears a huge tobacco-pouch and carries a sahuaro pole on which small greasewood sticks, tied at right angles, do duty as hooks.

796 His[1] bare arms, as well as his arrows, are decorated 301 each with a spiral line made with chalk and encircling

536 [1] [i.e., the clown's.—Analyst]

796 lengthwise, while his legs are daubed in spots, the color
301 being afterward allowed to wear off. At the feast, the
536 numerous clowns perform pranks everywhere; they visit
796 the houses, offer food, and shoot at men disguised as
536 deer. During the dancing they keep in the middle of
the dancing place. They neither sing nor talk, though
they may do so if requested. If a clown breathes on a
[755] sick man, the latter gets well. The mask when not used
is kept in the house of the owner, usually in a covered
earthen-ware jar. The dignity of the office, which does
not imply the necessity of being a medicine-man, is confined
to certain families, the father deciding which of
his sons is to be the next clown.

796 On the wall in my lodging-room there was hanging
a different kind of mask, neatly made from a gourd, and
532 painted. It is worn by a singer at the same great feast.
I also secured this, and during the time spent at Santa
Rosa valley I was fortunate enough to make quite a collection
of such interesting objects. There are three sections
of colors on the singers' masks symbolizing clouds
of similar hues. The upper part is painted with red
[386] ochre; then comes a black band which is produced by
a mixture of sap from the mezquite and oxide of iron;
the white band is made with chalk. The zigzags of the
red section symbolize clouds, the dots are grains of corn.
The designs on the white section denote clouds and lightning.
796 The singers (*viinim*) have the same kind of rattles
534 as the clowns, consisting of a number of the small
bags spun by an insect (*attacus orizaba*), with a pebble
inside of each, and attached to a band around the ankle.

The band should be cut from the skin of a black 796
dog, which is killed for the purpose in the practising 534
enclosure.

The singer has the upper body nude, his trousers 796
being turned up as high as possible and his feet bare. 533
He wears no head-dress, but attempts to appear neatly 301
attired, tying around the loins a colored bandanna or perhaps a shawl borrowed from his wife. Around the waist, the neck, and the upper part of the arm bright-colored strips of cloth are tied. His body is smeared with red ochre on which are spots of white, symbolizing grains of corn.

An important part of the singer's outfit is the bull-roarer, 796
consisting of two flat pieces made of sahuaro 534
rib, the smaller one being held by the hand when in use. The connecting string should be twine of native cotton, which still may be found in use. They are decorated with symbolic designs, such as those standing for lightning, clouds, turtles, grains of corn, expressing their desire for rain. The buzzing sound produced should be deep, in imitation of the thunder, which brings rain; if the sound is shrill, lightning only will follow.

The bull-roarer is swung for the purpose of calling [202]
people together and as a sign that the meeting is over, both at the preliminary exercises in the practising enclosure as well as at the feast itself. These buzzing implements not only open and conclude the proceedings, but they are used on the way from the practising house to the feast early in the morning, also when the cloud

796 symbols are carried about, and on similar occasions.
534 When not in use, the implement is tucked under the belt at the back. After the festival it is put away not to be used until the next feast takes place.

796 The singers are made up of the following four groups:
533 1. The people of Santa Rosa rancheria. Sikulhímat, Alŏitak, and Kvítatk join with them.

2. The people of Kvívo rancheria. The San Xavier inhabitants join with these.

3. The people of Ánekam rancheria.

4. The people of Áktjin rancheria.

These four groups have different masks and at the head-quarters of each is a practising enclosure.

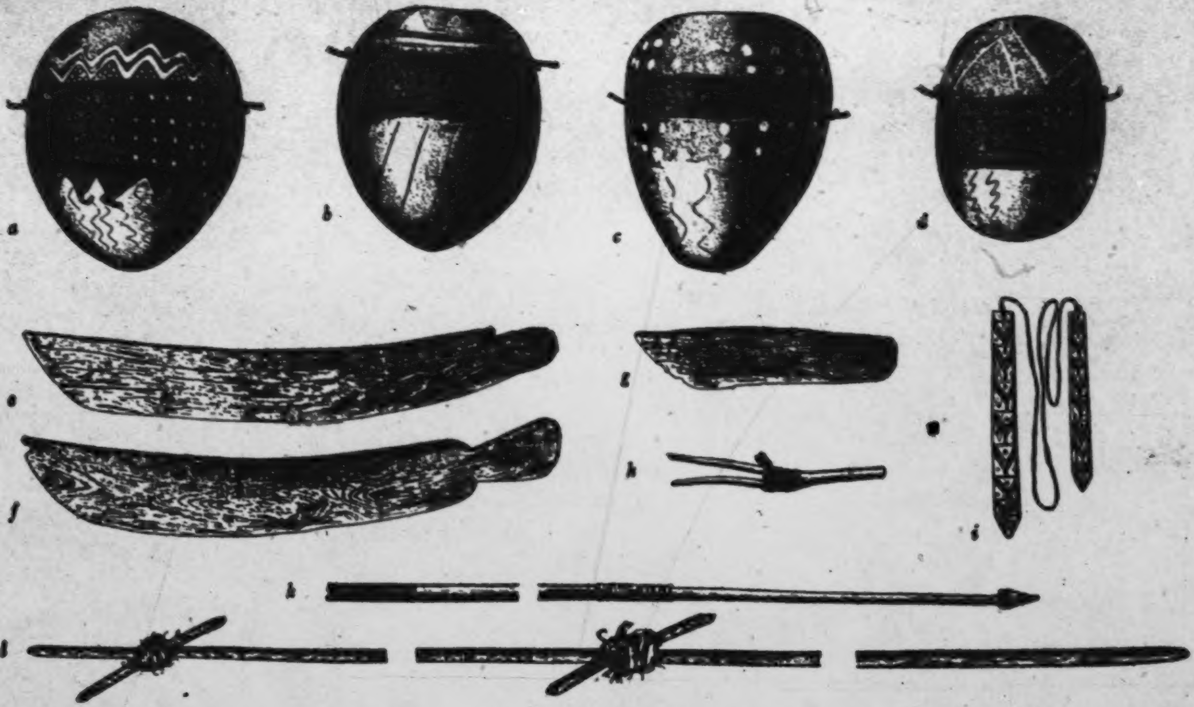
796 This great harvest festival lasts from morning till sunset. Ten days before the principal men begin the preparations, fasting at the same time and drinking water but once a day. Sometimes as many as fifty rancherias take part. Much noise is made in the evening before the feast is begun. Each group of rancherias sings different songs, in its turn, and every fourth year new songs are produced. At the Quitovac meeting the same songs are used year after year. The singers also dance with ceremonial objects in their hands, their songs being suited to the emblem carried.

796 Mr. Brownell, store-keeper and mine-owner at Brown-
178 ell, in the Quijotoa Range, was present at the last festival given, which was in December, 1908. Though unable to give me any descriptive detail, he assured me that it was an unusual performance in its magnitude and barbarous display of costume, paint, and ceremonials. A

7: Lumholtz N-5 (1909-1910) 1912

NU28 Papago NU28

[Facing p. 96]



PAPAGO ETHNOLOGY

a (Santa Rosa, height, 19 ctm.); *b* (Kvívo); *c* (Ånekam); *d* (Åktjin): Singer's masks. On the red (upper) section the zigzags mean clouds, on the white (lower) section the zigzags mean clouds and lightning; dots symbolise grains of corn. *e*, length, 77 ctm.; *f*, length, 76 ctm.; *g*, length, 41 ctm.: Ancient wooden hoes from Ånekam, used by women. *h*, twig of greasewood, used for scratching oneself when on salt expeditions; length, 18.7 ctm. *i*, bull-roarer; the triangles symbolise clouds; the lines (red) descending between the triangles indicate lightning, and the dots are corn, length of longest, 50.7 ctm. *k*, old Papago arrow, with obsidian point, from cave in Baboquivari range, total length, 1 metre. *l*, stick for bringing down sahuaro fruit; total length, 4 metres.

534
241
411
412
222
532

796 few other Americans had been present, but nobody was
178 allowed to make any notes. Permission to take photographs would not be considered without a payment of six hundred dollars. It is doubtful whether a similar festival will ever take place again, for there are only one, or possibly two, old men left who know how to direct the complicated ceremonies. Formerly, the complaint was made to me, the young men used to be taught by the two old men, but at present nobody goes to them. If another festival does take place, it would be highly desirable for an ethnologist to be present. I visited the practising enclosure, which is from forty to fifty feet square. A great accumulation of ceremonial things was left here from preceding feasts, conspicuous among which were some large, triangular frames to which wads of cotton were attached, symbolizing clouds. Bright blue, wooden swallows, fastened to the tops of sticks, also attracted my attention. They are carried by certain performers. The enclosure is called a váaki, as is also the medicine lodge and the house of the leader of the salt expeditions.

I was successful enough to procure two more clown masks, the owners of both being medicine-men. One of them, who was too old to be a clown any longer, should have handed it over to his son or nephew, but he preferred American dollars. I was further completing my collection with sets of the various articles that comprise the outfit, when my nefarious activities reached the ears of the principal men, who at once put a stop to any more purchases. "What are we coming to," cried the chief,

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

796 "selling these things? Are we not going to have any
178 more feasts?" There was some talk of having me return what I had bought, but the storm of indignation gradually subsided.

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

CHAPTER VII

VISIT TO A VERY SACRED PLACE—THE CHILDREN'S SACRIFICE —A MEETING WITH AN IMPORTANT PERSONAGE—ÁNEKAM— PRIMITIVE NATIVES—I ARRIVE AMONG THE KOHATK PEOPLE —A WET NIGHT—RETURN TO SANTA ROSA

ALL the while I had not forgotten what my talkative 624 woman friend at the last stopping place had told me. "Get an old man to show you the children's cemetery," she said, "and you will see many things." As soon as I considered my acquaintance with Simon to be sufficiently well established, I asked him if he would not take me to the place where the children had been buried. "It would be well to get the chief's permission for that," he answered after some hesitation. Accordingly Pablo and I mounted our horses and, accompanied by Simon, also on horseback, started off with the prospect of an interesting afternoon's experience before us. The place was not far away, perhaps three miles off, but it was already five o'clock and, as we first had to secure the permission, we hurried along.

Simon is very quick in his movements and, there being no time to waste, we confidently followed in his wake. We arrived at the camp of one of the principal men, a leader of the annual salt expedition to the gulf, with whom on the previous day I had had a long interview. 624 He was one of those old-fashioned, simple-minded, 773

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

624 773 though intelligent, barbarians who give the serious inquirer clear, absolutely straightforward information, and I had no objection to hearing from his mouth some more about the ancient traditions of the Papago. He told us of a spring that once had threatened to flood not only the great valley of the Santa Rosa, but the whole Papago country. Four children, two boys and two girls, had to be put into the fountain in order to stop the water from flooding. The sacrifice had availed and ever afterward this had been a most sacred locality, of which the Papagoes took great care. He asked us what we wanted to do there. Being assured of our harmless intentions, and Simon being a great friend of his, he had no objections to our proposed visit, and I paid him two dollars for the permission.

624 626 Our next call would be, I expected, on the chief. Simon, on his quick-gaited steed, rode ahead of us, and soon disappeared from view in the winding arroyo, which we entered. This arroyo led among the scattered ranches of Santa Rosa up to the base of the mountain range, where lay the object of our trip. On an easy grade we travelled quickly over the sand and gravel that the rains of previous years had washed down from the mountains so as to fill the arroyo bed. On both sides grew thickets of desert willows, arrowbushes, and a peculiar light green bush with long, needle-like leaves, from which the Indians make prayer-sticks. We followed this beautiful arroyo for a couple of miles, and I was congratulating myself on getting away unobserved by the multitude. Pablo and I spurred our horses along and we gradually

gained on our swift guide, who suddenly left our safe 624
arroyo, now narrowing as we approached the base of the 626
mountains. We passed a couple of hundred yards above the last houses of the rancheria and were making fast for our goal, when a man on a brown horse appeared, coming toward us at a furious gait, followed by a white colt. Just as we reached the main road he caught up with us. Although he preserved a calm demeanor, his eyes, when he halted us, betrayed excitement. It was the old familiar case of Indians knowing in a mysterious way well-nigh everything that is going on, as if they had telephones and telegraphs.

"Where are you bound?" he asked. Simon looked scared when answering the question.

"That place," the new-comer retorted, "belongs to many people, and one man alone cannot give the permission to visit it. I am the chief of this rancheria. Why did you not come to me?"

Simon evidently had committed a serious breach of etiquette by letting the matter rest with his friend, the director of the salt expeditions. He tried to explain his action as being due to the absence of the chief in the fields. For a man with so much initiative and such unusual frankness, it seemed amazing that he should have made such a blunder. Judging from the way he repeated over and over again his one line of defence, his case was a weak one. The chief evidently was right, and finally, turning his horse toward the rancheria and starting back, he said he did not want us to go to that place.

This was more than I could endure, so I, with Pablo,

624 rode after him, and began negotiations in my own way.
626 He soon became more tractable. "The place is sacred,"
he said, "and not everybody who comes along can see
it." The Indians had gone to much trouble to keep up
its proper appointments. He was going to bring this
matter before the Big House, the lodge, that very evening,
and the people would decide in the case. The prospect
of vague and possibly endless delay was not exactly
to my taste, so I proposed another way out of the difficulty,
that of paying to him and to the other big man of
the tribe, the Keeper of the Smoke, the same sum that
I had already paid the first principal man.

624 Gratified at seeing the negotiations happily concluded,
626 I presented him with tobacco and candy, which he smilingly
778 put into his trousers pockets. He said we could go
to the cemetery that afternoon and next morning return
to look it over more carefully. To my suggestion that it
was too late in the day to continue the trip, he answered
that the place was close by. He admonished us only to
be careful not to disturb anything, and thus we separated
778 all in a pleasant mood. The cemetery was nearer than
I had expected; after having followed the road for ten
minutes, Simon told us that we had arrived. The country
was now level and covered with greasewood bushes
all around. We found ourselves at the beginning of a
broad pass, through which the road from Santa Rosa
leads westward to a mountain.

We tied our horses and walked aside from the road some twenty yards, when my eyes caught sight of a circular enclosure made from upright split ocotillo (*fou-*

quieria splendens) poles, from which the bark had been recently stripped. To the north and to the south was piled up at either side in a semicircle a very large heap of discarded poles, in orderly array, several thousands of them. I had expected to find a shrine of a more or less common type, so this was an agreeable surprise and worth some trouble.

I stepped up to the sanctuary, which was about the height of a man and nineteen feet in diameter, with open gateways toward the four corners of the world. The row of ocotillo poles was placed two or three thick. Inside, in the middle, was a mound neatly made of slabs, six feet in diameter and two feet high; on top of it rested a large sea shell, seven inches long, of a light rose color, with its opening toward the east. Two thin upright sticks of ocotillo had been placed at each cardinal point of the mound. The shrine stands on ground that is a few feet higher than the surrounding plain. This slight elevation, which provides ample space for the enclosure, is evidently natural, though its central part is slightly concave. This may have been due to the action of a spring. It looks as if the earth in some way had been removed, forming a slight basin. From this depression, toward the east and the west, are outlets as if water had been running. The western outlet is quite short, but the eastern is over one hundred feet long, and widens out so as to present broad, level ground. Here it is where the water finally stopped, the Indian explained, and here may be observed eight good-sized single stones or heaps of stones. Near each are placed two upright ocotillo

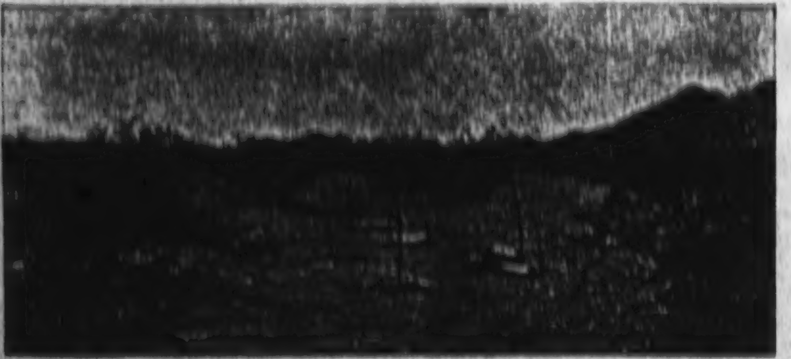
778 sticks, one toward the east and one toward the west. The four eastern stones or stone heaps have only one each, placed toward the east.

Everything about the place was scrupulously clean and orderly; not a trace of anything to be seen on the sandy ground anywhere. The mound of slabs that kept the water down in the bowels of the earth, and prevented the country from being flooded, was well arranged. Though mainly a prayer for rain to the sea, in a way this was a monument to the four children who had been sacrificed, and though devoted to a mythical event, its extreme simplicity, relieved against a background of the simple mind of the natives, was impressive, as the sun, at the end of July, in close proximity to the western hills, poured its strong, beautiful light over the scene.

Fearing a refusal, I did not ask Simon's permission to photograph, but, putting up my tripod, calmly brought my camera into action. Hardly had I begun operations when Pablo shouted: "People are coming! I see dust rising in the west." Although photography had not been included among the sacrilegious acts mentioned by the chief, still it required little sagacity to be convinced that, with the Papago abhorrence of the noble art, to be caught photographing such a place would amount to a crime. I had made a few exposures and now hurriedly put my camera and tripod together. Simon evidently felt very uneasy and, with his feet, began to cover with sand the marks that the tripod had left, making similar holes here and there with the sharp end of a pole, at the same time throwing sticks of wood about, to mislead his

Shrine of the children's sacrifice, seen from the west
The large heaps are discarded ocotillo sticks

Shrine of the children's sacrifice, near Santa Rosa



East of the shrine of the children's sacrifice
Here the outflow of water is supposed to have stopped

[Facing p. 104]

778 canny countrymen. Then we started back at a quick
pace to our camp.

The name of this sacred place is Åalhihiani (*áli*,
778 child; *bíbian*, cemetery). The enclosure's name is *ki*,
787 house. It is renewed at irregular intervals and, according to my informant, sometimes every year. The present one had been made during the preceding winter. Those who make the enclosure have to come on foot to do the work. After the work is done there is a feast in the lodge, the whole night being spent in singing to the accompaniment of rasping sticks. The four children come down from the cemetery and take part, but only the medicine-men see them. In the morning the latter tell the people what they saw and what the children told them about rain and crops.

778 The faces of the children when about to be sacrificed
773 were painted yellow with transverse black stripes, while the body was painted on the front, yellow, and on the back, black. A hole was dug in which the children were made to stand up, while the medicine-men sang. The flow of water which was stopped came from the sea,
773 threatening to flood the whole world. The Papagoes
823 worship the sea. In the subdivision of the tribe called
Hohóla, tradition has it that a man once went down into a cavity in the ground and the sea kept him there for four years. His relatives, considering him dead, burned his house and ate his cattle. He turned up one day, asked them to make a house for him away from the rancheria, and, after having taken eight baths, one every four days, he began to live again as before.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

783
411 Next morning I had an appointment with the Keeper of the Smoke. Some days before he had promised to make for me a shield of the same kind as the Papagoes until quite recently were in the habit of making when going on the war-path against the Apaches. As this is a solemn act, which entails much fasting and praying on the part of the maker, and also as it would mean, according to Indian notions, certain risks and observances on my part, we had agreed on a meeting at which I should be enlightened as to my duties and dangers in the matter.

Accompanied by Pablo I arrived at the medicine lodge at the appointed hour, which was "a little after the sun is over the horizon." We found the keeper sitting under the jacal in front of the lodge and facing the east. He was a stern, almost fanatical-looking Indian who conscientiously observes all the rules and regulations his religion imposes on him. There was no English or Spanish about this man. "I do not do things from hearsay," he began. "Every evening I make a fire east of the jacal (in the winter it would be inside the lodge) and tell the people what I know to be the truth. In this house I tell the people what to do, and this is the place where any undertaking should begin."

783
788
756 He spoke for nearly an hour. The shield he would make alone, and the proper precautions would be taken, but he wanted to be assured that I would not trifle with it, and that I should help in its making by fasting. "People have sold you clown's masks and singer's masks," he continued; "that is very wrong, and should never have been done. The merit of the feast passes away with

those things. They ought to be returned, but I am not 783
going to ask you to do that, because the things have been 789
paid for, so it would not be right to have the bargains 756
changed. But I want to tell you one thing which you
probably do not know. Those objects are apt to make
you ill, and when that happens, do not blame the Ind-
ians!"

When the time came for me to answer, I reassured him on the several points that caused him anxiety. The things I had acquired were going to be well cared for. I expressed my pleasure at the elucidation his talk had given me, and told him that I should like much to have another meeting with him by and by. He believed in me, he answered, and would meet me here again later on, but at present he was too busy making ready for the sahuaro feast which was soon to come off. He was glad to see me among his people, he added.

Next day, availing myself of the permission already 778
obtained, we again visited the "cemetery" as well as
other sacred spots in the neighborhood. I was shown
the place where the elder men, sitting in a circle, make
the small, bright blue prayer-sticks for the great harvest
festival. One end is pointed, and to the other is tied a
turkey feather; about two hundred and fifty of these are
distributed at the feast in the interest of health, and
some are buried later, to keep the fields moist.

The shrine of the buried jar is situated at the crossing of two tracks, one leading to the "children's cemetery," which is west of it. It is customary for those who visit the latter place also to call here and deposit some

778 782 offering. The jar is buried in the ground and a small mound made above it, the central part of which is covered by a flat stone. Ocotillo sticks, stripped of bark, are placed upright, two toward the east and two toward the west, and empty cartridges, bits of glass, small sea-shells, as well as pebbles, had been deposited here. The little shrine is just outside of the rancheria, toward the end of the slope that runs down gently from the mountains near by. The rain-water, in times gone by, had [134] formed furrows and small arroyos everywhere, making the country look wavy. The earth around the roots of the ever-present greasewood bushes resists the short-lived torrents, and they presented the same appearance of growing high above the ground on top of mounds which usually is due to the action of the wind. At one place where the ground was level a vast number of light yellow flowers were growing, forming a carpet-like covering among the greasewood. Quantities of broken pottery were lying about to the north-east of the small shrine and here, according to tradition, was the former site of the rancheria.

361 In spite of my satisfactory meeting with the Keeper of the Smoke, he seemed to have efficiently blocked my purchase of any more important objects, so I decided to make a tour of the several rancherias to the north, where the sway of my uncompromising and despotic friend did not reach; perhaps on my return conditions might change. The next rancheria to the north is Ánekam, hardly three miles away, but it is a community distinct from the preceding one and even more primitive. In

ordinary weather the inhabitants of one place can hear 361
the singing of those at the other on festive occasions.
The days were warm now, hardly any day registering [132]
less than 100° F. in the shade, often more. But climatic
conditions matter less than the attitude of the people
one meets, and here there was an unexpected charm
of simplicity and unobtrusive inquisitiveness which re- [181]
minded me of former happy occasions in my life among
natives. A sahuaro feast had been concluded the day
before. People from the surrounding country were still [609]
lingering and my arrival furnished an excuse for an additional
delay. Crowds of people, fifty or more, kept
around me wherever I went.

The Papagoes in the Santa Rosa valley are less 181
spoiled by contact with civilization than in any other 609
part of their country. From my note-book at this time
I take the following remarks: "I have never yet met
with a cross Papago; they are always amiable. In my
quest for specimens they smilingly admit me to their
store-rooms to inspect their fine granary baskets and
other kinds of baskets and utensils, and allow me to
look around inside and outside of the houses as much
as I like. On the other hand, they have no tact; they
seat themselves unconcernedly in a folding easy chair of
mine, or go to the box in which I keep my collections and
take out all the things to look at. They are always on
hand at meal-times; they dive with delight into the box
of crackers set before them, and are very fond of coffee."

They were rather a crude type, but pleasant to deal ooo
with, and were continually bringing things for me to buy.

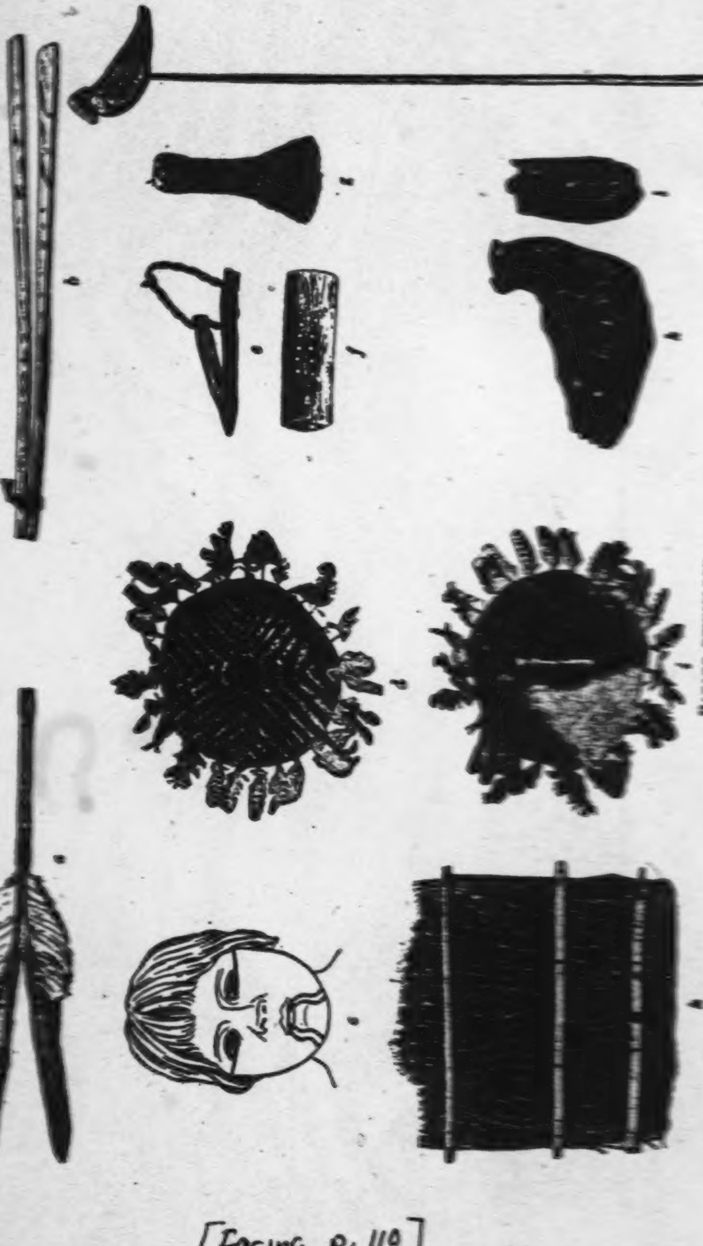
304 At Ánekam most of the middle-aged women and some of the men had their faces tattooed. These facial markings are dark blue in color and not elaborate. Common to both sexes is a thick line under the eyes, passing the outer angle of the eye and continuing parallel to the mouth until it nearly reaches the hair. This is almost becoming, reminding one of the way actors darken the eyelids. Men have besides markings on the forehead, and women, on the chin, have waving parallel lines descending from each corner of the mouth. Tattooing has been discontinued; the marks used to be applied with thorns from the sahuaro, taken from the top of the plant, and the charcoal of greasewood. Its purpose is somewhat doubtful. For men the reasons given were to draw blood from the eye; for women, to avoid getting wrinkles early. Generally women were the operators. After having been tattooed, salt was not eaten for a month.

853
862 A curious case of a woman nursing her two children of different ages came under my observation here. When seated, she had the younger lying on the ground in its primitive cradle with the large detachable shade, while the larger one, a boy of four or five years, was playing about. He would frequently run up to his mother and demand his rights which were never refused. Standing up with a large straw hat on his head he enjoyed the mother's milk usually reserved for children of more tender years. Sometimes children who are able to walk are kept in the cradle.

411
821 The wellnigh universal superstition relating to flint

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

412
301
314
415
342
456
293
492
302



PAPAGO ETHNOLOGY

a. Medicine man's plumes; length, [illegible] cm. *b*. Wooden tweezers used in pulling off certain cactus fruit; length, 28 cm. *c*. Tattooing marks on women. [illegible] Apache sham battles. *e*. Wooden spur, attached to one (right) foot; length, [illegible] cm. [illegible] length of bird, 8 cm.

[Facing p. 110]

411 arrow-heads is also found among the Papagoes, though
821 one would think that sufficient time had not elapsed since the days when the natives themselves made such objects. Their very name is lightning stone (*víhom*), and one man who presented me with one assured me that he found it by searching the ground after lightning had struck near his house. Sometimes, when lightning strikes a tree, the Indians will dig in the ground underneath for arrow-points. It should be noted in this connection that these Indians fear lightning, al-
[224] though they are not afraid of thunder. Bows and arrows are still used in Ånekam in hunting rabbits, quail, doves, etc.

361 Our next stop was made at Kukômalik, fourteen miles further north, a new rancheria which owes its existence to a fine well left by Americans who had to abandon an attempt at cattle-raising. At only nine miles' distance from there, in the north-west, is Kohatk; this is the first Pima rancheria, and the principal one of four rancherias or villages which are found in a small extent of country hardly thirty miles long, beginning immediately south of the Casa Grande station on the Southern Pacific Railroad. It may be termed the Kohatk country, being inhabited by the Kohatk people, who are Pimas that have, to some extent, retained their originality. They have, at least, been less affected by the white man than their confrères at the Sacaton Reservation, and may possibly for a few years offer a fair field to the student.
136 The country traversed after leaving Ånekam was singularly devoid of animal life. Not even a jack-rabbit seemed able to live here.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

000 137 seemed able to live here. The prevalent vegetation[1] was, as usual, greasewood with salt bushes now and then. Low sand dunes were visible here and there.

177 [302] The Pimas of Kohatk I found to be good-tempered, affable people. The women cut their hair in front so as to have bangs and they are good-looking. These natives seem to be somewhat under Roman Catholic influence and have abandoned their native feasts. Photographing [774] was as much detested here as elsewhere. The sight of my camera would make the children take to the woods and the old men hurriedly disappear on hands and knees into their dome-shaped huts.

[191 177] I heard neither English nor Spanish spoken, but the inhabitants have adopted the frontier man's way of living, frying their meat in lard and adding quantities of it to [262] their beans. They buy white flour and make unwholesome tortillas in boiling lard. This heavy, poorly cooked food forms their daily regime, without any variety. A small bucketful of coffee is distributed at meal-time both [231] in the middle of the day and in the evening. They possess cattle but, like most white ranchers, are too lazy to milk the cows. The meals are appropriately served on plates of cheap crockery and cups bought in the white [146] man's stores. The participants give audible evidence of consuming more lard than is good for them, and, were the facts known, "to be as dyspeptic as a civilized Indian" would be an adage. Think of the anomaly of leaving wholesome, natural, well-cooked dishes for a diet of lard and the cheapest kinds of canned goods.

252 Contrary to the universally accepted opinion, the cui-

[1] [i.e., in the country between Anegam and Kohatk.—Au.]

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

sine of barbarous Indians is excellent. To be sure, they 252 have few dishes, but there is variety enough, and an important fact is that the food is never "killed," *i. e.*, overcooked, as is the all too common habit of the poor white man; the food retains a natural, pronounced flavor of its own, unknown to most whites, besides having all the life-giving elements. After all, nothing tastes as well as the simple things, well cooked. What is better than the whole wheat cakes of the Papago Indians of Sonora? They are nature's genuine gift to hungry men, furnishing at the same time extreme satisfaction to one's sense of taste. I know of an American who came across this dish fit for kings in a corner of Sonora, to whom it was such a revelation that he ordered two sacks of the flour to be sent to his distant home. The primitive Indian way of cooking beans in clay vessels without lard is unsurpassed for preserving the inherent flavor of the bean. No one can cook squash as my modest Indian hostess or make an *atole blanco* (thin gruel of maize) like hers; even the Mexican women cannot compete with her in this. The green corn that is offered in early autumn in fashionable restaurants in New York as a native delicacy ought to bring a blush of shame to the chef's cheeks, watery and devoid of flavor as it is.

Apart from the stultifying process of jumping literally, as the saying goes, from the frying-pan into the 252 146 fire in their effort to imitate the white man, there is a very sad feature connected with the abandonment of native dishes. Indigestion and a one-sided diet undermine the strong constitution of the Indian, enfeeble his [164]

252 blood, and leave him with little power of resistance to
146 his great scourge, tuberculosis. According to my inter-
[164] preter, who is an observant man, it is no uncommon occurrence among the Papagoes who have adopted the white's man's cooking, even to die from indigestion. Next to brandy, lard is the greatest curse civilized man has brought to the Indian.

000 After a warm and cloudy night we had the somewhat rare experience of four hours of rain in the forenoon. Still, in the afternoon, as the rain had not been so very heavy, we decided to return to Kukómalik, thinking we might get there in an hour and a half by driving a little fast. We made our way very well up to about a mile within our destination, when our horses began to encounter difficulties. The land here was slightly depressed and therefore retained the newly fallen rain as a reservoir on its alluvial soil. The ground became very soft, and finally, in spite of heroic efforts, our horses could pull no more. The night had overtaken us with darkness, deep as in Egypt of old. Pablo went to look for a team to pull us out, while I remained behind trying to light a candle which the insects aggressively put out. At ten o'clock the moon rose and made the outlook a little bit more cheerful.

A fresh team of Indian horses after a while came splashing through the water, but they proved inadequate for the task, and we had to camp where we were. The mud was of the kind of which adobe is made and stuck to our shoes like clay, but there was no necessity for walking around much. There were a few mezquite sticks lying about, and lots of resinous toviso bushes were growing near, so we could make a fire and had excellent beef soup. Pablo arranged a comfortable bed for himself by pulling up a number of the same generous bushes. I also helped my dog to secure comfort for the night, his usual tactics being to lie down on top of a bush, thus pressing the branches to the ground by his weight. As for myself, I again enjoyed the usefulness of my folding cot which, on account of its height, prevents any discomfort from boggy or slightly uneven ground. There were some mosquitoes about, but I slept well after smearing my face and hands with an effectual protection of French-Canadian origin which I can confidently recommend. It consists of seventeen parts olive oil, one part carbolic acid, and two parts oil of pennyroyal. The humidity of the air, however, was surprising, for my blankets were found in the morning to be thoroughly wet, as if they had been exposed to rain.

Shortly after sunrise our Papago returned with his two horses and a shovel. The four horses stamped timidly in the mud and could not at first be brought to pull together. Through continued and frantic efforts on the part of us all, the wagon moved forward again. After having spent a few hours at the rancheria drying our things in the warm sun, we returned to Ánekam where people were glad to see us again, and the next day found us once more at Santa Rosa in the evening.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

CHAPTER VIII

SCORPIONS—A STORM IN THE DESERT—HOW THE SAHUARO WINE IS MADE—THE SAHUARO FEAST AT SANTA ROSA—A GREAT RENDEZVOUS—SOCIAL AMUSEMENTS OF THE PAPAGO—SUCCESS AT COLLECTING SPECIMENS—STUCK IN THE MUD—WONDERFUL CHANGE IN THE LANDSCAPE—A VALUABLE VEGETABLE—PARTING WITH PABLO

OUD MY little house in Santa Rosa I found occupied by guests who had arrived to take part in the much-heralded sahuaro feast that was soon to be celebrated. I, therefore, drove the wagon up to some erect poles, the remnants of a shed, and put up my fly between these and the wagon. During the night I awoke from what first seemed a disagreeable dream, but which proved to be an intense pain in the little toe. I applied some extract of rattlesnake beans, which a friend of mine had induced me to take along as a ready remedy against the bites of poisonous snakes and other troublesome creatures. The pain seemed to come from the nail, as if it were being forcibly bent backward, but after a couple of hours it subsided sufficiently for me to fall asleep again. In the morning the foot was swollen and I could not wear my shoe, but after twelve hours I was all right again. Perhaps the mischief was due to a small scorpion, though the Japanese doctor in Caborca, to whom I related the occurrence, seemed to think that it was a case of a very poisonous ant of Arizona noted for the extreme pain caused by its bite.

There is a large scorpion (*hadrurus hirsutus*) found in these parts, four and one-quarter inches long, which, however, is not as poisonous as the smaller species. Late one evening, while searching for something with my lantern, I came across one running along the ground, and which appeared at first sight to be a mouse. It was killed and left in an open vessel to be put in alcohol the next day. In the morning I found that the ever-present and hungry hens of the Indians had already taken care of it. With the exception of scorpions, there are not many obnoxious creatures in the region. Rattlesnakes, of course, there are, but they should not be classed in the same category with the rest, because they always give warning of their presence, besides being perhaps the only snakes known to be good-tempered. According to the Indians, few horses and cattle are bitten; they know the rattlesnakes and turn away when they hear the sound; dogs also know them. Children in the West have been known to lift them up unharmed, and the extraordinary performance of the Hopi Indians carrying them alive in their mouths may be called to mind. I never like to kill a rattler. 136 [231] [825]

On Sunday morning, August 8, dark, nimbus clouds were gathering in "threatening" fashion, as the inhabitants of countries with normal rainfall would say, but here where the very existence of the people is dependent on a few showers in July and August, they awakened joyful expectations. The prospect of rain was at that time uppermost in everybody's thoughts, day in and day out. It means success in raising crops, the filling by the 821

821 rain of dams and rock cavities, which will ensure drinking water for man and beast until the next summer and the growing of grass to keep cattle and horses alive. People of the desert learn, however, to be very patient about the arrival of the blessed water of the clouds and conservative in their estimate of rain prospects. Usually the clouds pass away to reappear again the next day and many more days, resulting often in mere gusts of wind. Since early morning we had heard thunder in the south-east, and later also from the north-west and west. Lead-colored, heavy clouds were gathering everywhere. Still, when the storm came, it took us somewhat by surprise. Even the Indian visitors had their bedding left on the ground when the dust storm, the advance guard of the rain, fell upon us, travelling forty to fifty miles an hour.

000 Pablo and I hurriedly rolled up my bedding, putting that and a few important things that I could seize in the short time allotted inside of the ancient house with the small entrance. The rest, among them a camera and a box containing films, I covered as well as I could inside of the wagon. Pablo, as usual, did not have his ropes ready to fasten the wagon cover securely, and it threatened to blow away. In shorter time than it takes to tell it, the rain was upon us. He threw his quilt into the opening of the cover to protect the baggage and collections; then he hurriedly made his escape into the hut where I had just sought refuge from the fierce outburst of rain and wind.

The storm abated somewhat ere long, but was immediately succeeded by others, and when finally, after 000 two hours, the weather calmed, the arroyo at the back of the houses was roaring as if in joy at being born a river again. Before the rain was over the children were 273 playing in the newly made ponds. Soon the grown-ups appeared on the scene, all much animated. While Pablo and I started to dry and clean our things, they enthusiastically resumed their interrupted preparations for making the wine, which was to play such an important part in the approaching sahuaro feast. Juan had already evacuated his hut the day before in order to devote it to wine making. Early in the morning men had brought large earthen jars belonging to his and the neighboring houses, and the jars were now resting safely in cavities that had been dug in the earthen floor of the hut, twigs of fresh greasewood as usual forming their immediate support.

As soon as the rains ceased a procession of women started off to fetch the necessary water for the wine making. The cheery women, each superbly supporting [482] a shining olla on her head, looked picturesque as they walked one after the other through the greasewood bushes in the beautiful light after the storm. Two trips had to be made and the full jars were all deposited outside of the house, to be used as soon as the clay vessels containing the sahuaro sirup were opened; of these there were a dozen medium-sized on hand, all neatly sealed.

About one o'clock in the afternoon the solemn work of mixing the sirup with water began. Two young

273 men seated on the ground under the jacal in front of Juan's hut and facing the east began these operations. The sweet stuff was first poured into a large and deep water-tight basket, with symbolic designs in the weaving, one placed before each young man. Water was poured into this, in the proportion of two-thirds to a third part; sometimes half and half is used. The operators, who had their shirt sleeves turned up to the elbow, mixed according to rules and regulations. Slowly stretching their hands, palm down and forward, over the fluid, they would immerse them and draw them along the bottom toward themselves, then rubbing the hands twice against each other over the fluid. This was repeated several times. As a change they sometimes dipped them into the liquid, lifted up what the two hollows of the hands would hold, and rubbed it into foam, continuing rubbing until the foam disappeared. An elderly man then tasted the mixture, carried the basket into the house, and emptied it into one of the big jars. This procedure of mixing lasted nearly four hours. In the same way the brewing of the much esteemed wine was commenced that day not only in the Big House, but in many of the private dwellings of the great rancheria. Usually several families unite forces at one house and, when the official feast of two days is over at the lodge, people gather at the houses to drink and get drunk.

796
202 Shortly after sunset that day, the loud voice of the herald who calls the meeting to order, sounded from the lodge. His exhortations lasted several minutes, and although I at a distance could not distinguish the words,

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

Desert willow in bloom, June

482

Papago woman carrying water

312

The dam at Santa Rosa. Made by the Papagoes

[Facing p. 120]

796 202 I have no doubt that his voice, which rang clear in the quiet night, carried over the entire rancheria. What he was saying was, of course, known to everybody; hearing the call was enough to summon them for the important event. 796 People were slow in assembling and the dancing began late. The long string of eagle plumes over the dancing place, that had been a prominent feature in the arrangement at the former sahuaro feast in which I took part, was missing here. During an accidental fire in the house of the keeper with the ominous name, the sacred emblem had literally gone up in smoke. A band of medicine-men, some of them called from a considerable distance, were making up for the defect. There were four of them inside the circle, walking around in a row, moving their plumes and invoking the rain. At times they would dance about like children gesticulating wildly with their plumes. Two of them wore cast-off garments of whites, and one in a long, smart-looking mackintosh, looked especially ludicrous, cutting extraordinary capers to induce the rain to come.

The dancing and singing were on a much larger scale than at the feast I had previously attended, as befitted such an important locality as the Santa Rosa. The leading singers, as well as a few of the others in the circle of about a hundred dancing and singing men and women, had astonishingly powerful voices. There was an atmosphere of order and sincerity and devotion among the participants. Very noticeable was a woman leader, who walked next to the man who, swinging his rattle and singing, leads the whole procession. She had

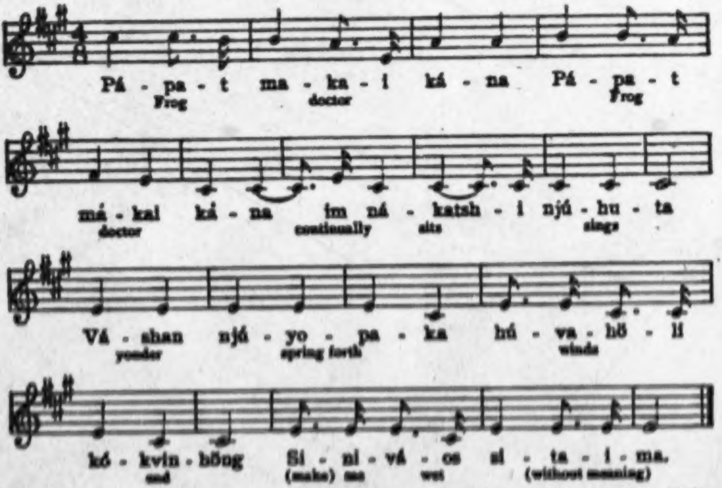
7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

796 an extraordinary soprano that would have done credit anywhere, untutored to be sure, but rich, sonorous, and of great force. She was the wife of the Keeper of the Smoke, and had a married granddaughter!

796 For about an hour I danced and sang, making my
533 way in among the leaders. Their singing was almost deafening, and after a while I walked home to my camp, enjoying the singing better at the distance of a mile. The next night, near my bed time, it sounded especially well; they were singing the "Frog Doctor," a song about rain and moisture that I had learned, and which has the distinction of being in the major key. I could

THE "FROG DOCTOR"

A PAPAGO RAIN SONG HEARD AT THE SAHUARO FEASTS


Pá - pa - t ma - ka - i ká - na Pá - pa - t
Frog doctor Frog
má - kai ká - na im ná - katsh - i njú - hu - ta
doctor continually sits sings
Vá - shan njá - yo - pa - ka hú - va - hö - li
yonder spring forth winds
kó - kvin - böng Si - ni - vá - os si - ta - i - ma.
and (make) me wet (without meaning)

[825] The frog is thought to possess powers of a medicine-man (makai). Being connected with water he is, according to Indian belief, able to influence the coming of rain and is therefore implored to assist in bringing moisture to the earth.

follow the words at that distance. In their enthusiasm 796
they seemed to be trying to wring the rain from the gods, 533
and above them all could be heard that wonderful soprano. Every time a new stanza came around, they intoned as is their custom the first words with all the power of their lungs, giving the singing a triumphant expression.

During the two nights of singing and ceremonies, 796
the wine was getting ready for consumption on the 273
third day, at which time people gathered outside the lodge to the number of some five hundred, including many who had not taken part in the exercises. Many came to drink wine at the houses of their friends and relatives, and had been invited from such distant places as Florence on the Gila River and San Pedro in Sonora, everybody first having been present at the distributing of the wine at the lodge.

Young boys on horseback had been in evidence in [526]
the morning, racing joyously with each other and raising dust wherever they went. Some of them were prematurely under the influence of liquor, the result of the inroads of civilization. It is characteristic of the primitive Indian to be strict and formal in his religious observances, but after the festival, when the gods have had their share, he, too, wants a good time and takes it. The rising generation, breaking away from their native customs, make no such fine distinction.

People came on horseback or in wagons, some of 796
them in light carriages; one well-to-do Indian from 484
the northern part of Baboquivari arrived in quite a

796 smart turnout with two white horses and had a well-fed
484 dog running alongside. He wore spectacles and brought
[246] his family with him. It was a curious assemblage in the desert. There was as yet no shouting to be heard or any other noise than that of wagons rolling and horses galloping over the sandy ground, but the scene was one of bustling activity that reminded one of a race-track meeting.

796 The ceremonies began at noon and only a minority of those present could sit down on the dancing place and take an active part; most of them had to be spectators, standing or sitting on their horses around the square of human rows. Beyond these, wagons had been drawn up which were filled with standing spectators. The chief passed me in the throng and said he was glad to see me at the feast. He hoped I would make the most of it and see everything; I thought he might have invited me to take a seat among those on the "ground floor." However, any one who liked was free to do so if he were able to squeeze himself in. As it was, I preferred to be where I stood.

796 People were in their very best finery, and some of
292 the women were a sight to behold in gaudy colors, not exactly the cheapest stuff, for the present-day Papago is well-to-do and wants the best, although he does not want to pay high prices. The most conspicuous dresses seemed to be made from mercerized silk, very thin, and were fair copies of the prevailing fashions among white women in town or on the ranch. The Papago woman is clever and cuts her clothes herself, sewing

them on the machine, which she owns or borrows from 796
her more fortunate sisters. Petticoats are considered 292
less necessary. At Juan's ranch, on which was my camp, the women folks had been working for two days to get their dresses ready for this occasion. Until midnight the running of the sewing machine could be heard [294]
from the little house I had at first occupied.

The ceremonies and speeches proceeded in the same 796
manner as those I had witnessed before. The wine was 273
distributed only to the fortunate ones seated in the square, and there was not much of it either. After an hour the whole affair was over and people dispersed to the different houses, where the brew of the season was awaiting them. To be present at the revelries which followed was not pleasant. It was a good-tempered crowd, but drunken people are nuisances, whether in civilization or among barbarians. However, if anything, there is some excuse for a barbarian to get drunk, for he thinks it is the will of the gods, and that it helps to bring about rain. Moreover, his native intoxicant, indulged in only on certain religious occasions, does not do him much physical harm.

There were some ludicrous sights to behold, mingled with pathetic. Two women on the point of starting for home were seated in a wagon, both visibly under the influence of the sahuaro wine. They were conversing and weeping in their effusive feelings for each other, while a suckling infant at the breast of one of them was adding to the wail from a quite different sentiment. A thick-set, resolute woman with a nice face, an acquaint-

796 ance of mine from Ánekam, took charge of her drunken
273 husband, trying to get a start for home. The board that closes the hind part of the wagon had been taken out, as if ready for loading; she invoked the help of a sober-looking young fellow and, with their combined efforts, the heavy bulk of her husband was landed safely in the wagon. The young man next, in a most informal way, helped the corpulent lady herself to climb up by grabbing hold of one of her legs and shoving her upwards with all his might, as if she were a log.

600 It became necessary for me to begin my return journey to Tucson, and I proceeded first to a rancheria, which is in close proximity to Santa Rosa. I had learned that an old man who had given me valuable information at San Xavier was living here, and I desired to see him again. He turned out to be the most influential person there and was very kind. True, he accepted an unusual amount of presents in the shape of provisions, tobacco, etc., but his good-will was well worth the price. The people were encouraged by him to sell me what I wanted and there was no loss of time from having to coax and wait or having to dispel suspicions and fear. Everybody was obliging and glad to sell. Some went to the practising enclosure of the place and rifled it of anything I might desire and they all searched their houses. It was as if I had come to a primitive tribe in Australia. I secured good masks and a complete clown's outfit, the best so far, including a pouch in which tobacco and medicine plumes are carried.

At my request a man was sent to Ánekam to try to

[pp. 127-146 not processed]

000 for agricultural interests, and the small stream which as a quiet brook passes back of the church represents the last of the Altar River, soon to disappear into the sand.

In this church it was that the population took refuge in 1857 to defend itself against the American filibusters under the command of Captain H. A. Crabbe who invaded the pueblo. The presidente of Caborca accompanied me up into the tower to show me the marks of the enemy's bullets. The Americans had entrenched themselves in a private dwelling opposite, maintaining probably a well-directed rifle fire. A Papago Indian saved the day for the Mexicans by ingeniously attaching fire to an arrow which he shot from the tower onto the straw roof of the American fortress, thereby succeeding in igniting it, which forced its surrender. The Americans were all shot, for times were rough in those frontier days.

648 The Papago Indians of Caborca number eight families
who live in the suburbs, most of them making their
living by working for the Mexicans. Two families still
222 possess nice, large fields where both maize and wheat
241 are raised and where splendid specimens of the wild fig
trees (Spanish, *biguera*) were conspicuous; this fruit is
gathered twice a year and eaten fresh or dried. Other
222 fruit trees here were granadas and peach trees, as well as
136 the ever-present nopal cactus, which is so useful to the
natives, both stems and fruit being relished. There are
great numbers of the giant cactus growing between here
and the coast, but the fruit has not been gathered for
000 several years. It appears that a feast at which sahuaro

796 It appears that a feast at which sahuaro wine was drunk was dependent at Caborca on the killing of the mule-deer (called by the Mexicans *buro*). At the dance which was executed in a different manner from that of the ordinary sahuaro festival, the men carried arrows, and the singing was accompanied by the medicine-man's rasping sticks. The same kind of festival is probably still in use among Indians west of the Altar River.

153 181 The Indians at this place show the usual intelligence of their tribe. One young man who had been instructed in the knowledge of the alphabet by an American in Quitovac, taught himself how to read. He did not read fluently, but had almost mastered the art. Few of the Indians here can, however, be depended upon for work, as they are demoralized by the mescal brandy. They seem to employ their time between earning money and getting drunk therewith. They are no longer able to keep up their native feasts and are rapidly disappearing into the body of Mexican laborers. The same is the case with the remnants of Papagoes who live in the rest of the towns or settlements along the Altar River.

000 My plan had been to fit out my expedition here, but the difficulty I experienced in trying to secure riding and pack animals, not to speak of men of the right sort, decided me to continue the journey by wagon. [484] All traffic here is by wagon, and it is easy to proceed by this mode of transportation as far as Quitovac and Sonoita, two settlements of Mexicans with considerable Indian populations in the farthest inhabitable western part of the District of Altar. Even a wagon proved difficult to

procure. The *carreros* (wagon owners) all seemed to be 000
away, though expected back.

Through the kind assistance of the Japanese doctor 124
I secured an acceptable interpreter, a pure-blooded Papago, Clemente, and finally, through a prominent business man, a wagon was engaged, which was to be driven by its owner, Alberto Celaya, an intelligent Mexican who knew the country, having been born and raised at Quitovac. Caborca being the last place for mail, I should 000
from now on have to depend for news of the outside world upon some obliging traveller who, going westward, might bring along my letters and newspapers. For the first days or weeks one misses sorely one's mail, especially if interested in knowing what takes place on the rest of the globe, but after a while one gets used to being without news, and on an expedition of this kind it is far the best plan to go heart and soul into what is being done; a world of one's own is created for the time being, rich in events through the conquering of obstacles, the visiting of new places full of interest and the observations to be made, besides being a source of much delight to any one who opens his heart to nature.

After so much delay I was glad to get a start. About six miles from Caborca an old mezquite tree growing on the eastern bank of an arroyo is passed. It has the [526]
mark of a cross cut into the trunk, because this tree used to be the goal of the Papago ball players of Caborca; the judges are said to have been on horseback. A few hours later our wagon, which was guaranteed to be in first-class condition and looked it, suddenly gave us a

000 great surprise by breaking down. Clemente, the Papago interpreter, tall and long-legged, immediately started on a fast run in order to overtake an empty wagon that five minutes before had passed us rather briskly on the llano. As he ran he fired three shots from his pistol to attract the driver's attention, and after an hour or more brought the wagon back. The goods were transferred and Clemente and I made our camp near Tajitos, a small gold mine, until our driver returned from Caborca with a new wagon, which he had managed to borrow.

316 We passed Norias, a gold placer mine, where a small number of Mexicans and one Indian family live. The Papagoes, both father and son, had discovered mines. The father's discovery had once been thought important, and he had received four thousand dollars for it, which was spent long ago in the usual light-hearted fashion of the miner. The old man, humorous and frank, consoled himself with the fact that he owed nothing and owned a wagon. Westward of this placer mine among the hills toward Cozon are many now abandoned goldfields that yielded short-lasting but rich harvests to those engaged in "dry washing" the surface. Bonancita, San Perfecto, San Luis, and Hornitos are familiar names to the few who know the history of this part of the District of Altar.

312 At the Ranch Garambullo (the name of a thorny bush)
are living six or seven Mexican families whose water
supply is a dam which is not sufficiently large to serve
beyond a limited time, when they are compelled to leave
000 for other parts. Only one family, that of Sr. Santos

[pp 151-162 not processed]

312 There should be no great difficulty in making dams, and still less in sinking artesian wells. I was told of a very convenient place for a large dam in the low range north of Temporales, near the boundary line, three or four miles away. This valley averages eight or ten miles in width; a few miles east of Sonoita low mountains draw it together, but below that settlement it widens again. Only the middle part, at a width of one or two miles, probably more at certain places, is serviceable. There may be found a few sandy patches in certain localities, but, taking it all in all, this extensive stretch of tillable soil would be well worth investigating by people interested in agricultural pursuits, and one may expect at no distant date the reclamation of what is now practically a wilderness.

317 At the first Indian rancheria which we passed here, we found that some of the inhabitants had just returned from a salt expedition to the Salina de San Jorge on the Gulf. There were four full loads of salt lying scattered outside of one of the houses. The salt had been placed
[492] in discarded flour sacks, two being carried inside of a packing bag of mescal fibre, which is slung over the back of the animal and constitutes a load. Coarse grass is wrapped around each sack for protection, and the bag when in use rests on two rolls of grass, which serve the Papago as pack or riding-saddle, as the case may be.

361 This summer rancheria as well as the next, called
[312] Represa de Enrique, is quite populous. At the latter place the Indians possess a large dam. Our arrival
609 caused much excitement at first, due to a misapprehen-

609 sion, the Indians taking us to be *celadores* or mounted
inspectors from the Sasabe custom-house, who at un-
certain and mostly long intervals make tours along the
border line. There are two hundred miles from Sasabe
to the Colorado River, but the inspectors seldom or
never go beyond Sonoita. The Indians seemed relieved
at being correctly informed and were kind and gentle.
[191] They no doubt understand Spanish, but if spoken to
would answer only in Papago. Two kinds of small
[136] wading birds were noticed at the dam and in the morn-
ing up to noon the coyotes would fearlessly come to drink.
Some Mexican cowboys passing by lassoed one and then
let it go again.

241 On the day of our departure we passed one of the
fine fields which the Papagoes have here. The maize
had been stored away, but two huge heaps of squashes
were piled on the field; near one of them sat two women,
cutting them up into long ribbons. When nearly dry
these are folded up in convenient bundles and kept for
winter use. There was only one small jacal in the mid-
dle of this field of plenty, and thither I directed my steps
to buy some watermelons. Here also was a woman mak-
241 ing squash ribbons, great numbers of which were hang-
251 ing, festoon-like, to dry from the branches of a tree
outside.

261 All these women came from other parts of the country
476 and were preparing to take away as much as they wished
in accordance with the ancient custom which prevails at
harvest time of those who have sharing with those who
are less fortunate. If a Papago is known to have been

successful in his harvest, he will be visited by friends, 261
relatives, and many others who have no claim on him 476
other than the fact that they are Papago; they come to get *niári*, as they call it, many remaining with him for days. He is bound by custom to give presents of agricultural products to every one who comes. Some year when he has had a bad crop, he, in turn, may resort to niári.

At the locality where I found myself at present, Indians will in the season come for this purpose from as far away as Bisani and Quitovac. Nobody is refused, for the custom is binding and absolute. With the inroads of civilization and the accompanying disintegration of the tribe, many families are unable to practice agriculture at all; these and others, at harvest time, go visiting and return with their donkeys and mules laden with agricultural gifts. Also in May, when the wheat is being cut, the Papagoes gather from many parts at the places of those who have anything; they help in harvesting, but receive rewards even if they do not, according to the dictates of ancient hospitality. Among most of the Papagoes of Arizona the custom of niári has died out, though these natives are always hospitable and in some regions place food before the visitor even if the family is not eating. "To arrive at a Papago house is like coming to one's relatives," said Alberto, my driver.

The woman who was sitting outside of the hut was a widow from Quitovac and had no field. She had been visiting the houses of the rancheria for a month, helping the families a little by grinding corn on the metate, and

261 having a delightful time meeting friends and enjoying
476 the gifts of autumn. "When she decides to go home she
will receive loads of provisions of the new year," remarked my interpreter. One of the principal men of Quitovac was making a round of calls for the same purpose. He had only a small field himself, for at Quitovac there is much competition with the Mexicans, but, as an Indian said, "he has only to sit down; all is coming to him."

000 On our arrival at La Nariz, Thursday, November 11, a cold, disagreeable wind from south south-west was blowing over the llano, after dark changing to westerly, whereupon it suddenly became northerly and warmer, the sky clearing of some threatening clouds in the south. In the small hours of the morning I awoke, to my surprise, from light rain falling on my tent, which lasted for half an hour. I had made friends among the Indians at the last place visited, and their compatriots here did their best to be obliging. The next day all the men gathered outside of my tent, and we had a five hours' talk on matters
361 of interest to both sides. La Nariz is an Indian rancheria,
103 its name being derived from a near-by mountain which,
from a certain point of view, presents the profile of a human face with a well-marked nose.

361 There were only five families here living in rectangular
[342] houses of ocotillo poles laid horizontally and plastered
with mud. I found them pleasant to deal with and
anxious to preserve what there was left to them of ancient
756 beliefs and customs. The soul of this endeavor was an
346 elderly medicine-man, the principal man of the place.
841 Two medicine lodges were noticed here, one of them

having had to be abandoned because a Papago woman 756
during a rainy night had slept there. According to the 346
notions of many primitive people, she was at the time 841
unclean, and became the cause of the building of a new
lodge. At the native cemetery many makai have been
interred who on feast occasions are invited to take part
with the living.

The old man's son had married a woman who was 756
reputed to be a prophet—a female makai, with whom the
principal men from Quitovac and other localities at times
consulted. She looked about thirty years old and had
been totally blind for three years. According to her own
account, she had previous to her blindness suffered for a
year from violent headache and pain in the eyes. I have [164]
seen Indians made blind through small-pox, their eyes
covered in a similar way with large whitish spots over the
iris. In the house of this couple were held the nightly
meetings that usually took place at the new medicine
lodge, as the latter had been temporarily profaned by
the interference of an ox that had browsed and torn the
straw of which its dome-shaped roof was composed.

I proposed to my Papago interpreter, Clemente, that 538
we should attend that evening, as nothing worse could 521
happen to us than to be told that our presence was not
desired. A brisk fire was burning as we entered, making
the interior look attractive though there was no outlet for
the smoke except through the door. Several mats had
been spread on the earthen floor around the fire for the
participants to sit upon. Two were placed for Clemente
and me, on which we immediately seated ourselves, thus

538 being able to breathe freer in the lower stratum of air. As
521 soon as all were seated, including members of the family,
[773] the old medicine-man took the word. Without further
formality he began to tell about the creation of the world
by Elder Brother Íitoi and about the deluge. After
having dwelt on these themes for half an hour or more, he
asked my interpreter if I believed the world was created
as the Papago believe, or if I entertained the belief of the
Mexicans. Clemente very diplomatically answered that
781 he had never asked me of my beliefs. The lore of the
tribe arouses strange feelings even in a civilized Papago,
for an Indian is nothing if not religious, and Clemente
became eloquent, confessing at the start that he, having
been brought up among Mexicans, knew little of his own
religion. A man of position from Quitovac, on a visit to
La Nariz, expressed his opinion that surely all nations
have different religions and different gods, and the Papagoes
were contented to have theirs, Íitoi.

Among the Indians who were serviceable here was a
124 man of slightly darker complexion than usual, but tall
and of very fine appearance, as evidenced in his name,
Rainbow. His family were also nice and in his house I
felt at home, changing films for my camera in the cool
shade of the dwelling and even photographing the inmates.
712 With him I visited ancient fortifications on the
dark looking hill, of igneous origin, hardly four hundred
feet high, which gave La Nariz its name. Where the
trenches begin, about half-way up, there is a large stone as
high as a man's chest; on its flat top were small artificial
excavations in a row, each looking like the inside of a cup,

212
531

PICTOGRAPHS NEAR LA NARIZ

PICTOGRAPHS NEAR CABORCA

800

THE NOSE OF THE ROCK WHICH GAVE LA NARIZ ITS NAME

[Facing p. 168]

212 only more shallow. On the rocks were pictographs of
[212] the same kind and design as may be seen elsewhere in the district, as, for instance, near Caborca. Turkey vultures
[136] have a breeding place on the top; according to my guide, who has seen the young here, these birds make no nests.

281 Inside of the houses of the Indians in these parts, I often noticed skins of the peccary, called in Mexico *javalin*, the meat of which is much relished by the Papagoes; also skins of the mountain-sheep, deer, and lynx were
[262] seen. The Papagoes are exceedingly fond of meat. One
261 day at La Nariz a young steer was killed. Generous parts of the carcass were distributed to those who had
574 helped to butcher it, and everybody in the afternoon, including ourselves, was invited to come and "eat meat." The meat was broiled on coals, each person preparing his portion for himself, and this feasting was kept up until eleven o'clock that night. The participants actually arose earlier than usual, long before sunrise, to broil more meat and continue the banquet. Nothing else was consumed, not even tortillas, and in the afternoon very little of the beast was left.

243 At the so-called Temporales, where Mexicans from Sonoita and Quitovac practise dry farming, besides the usual forms of Indian corn, a kind of maize that matures in about two months is cultivated. It is called *maiz de los Yumas*, is white in color, and the ears are small. I saw some that had been planted in the beginning of August and which was ripe by the middle of October. The rains rarely fall here before August. Frost usually appears the 1st or 2d of November. This year it came on November

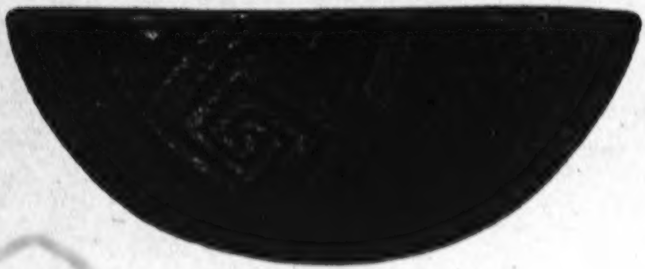
243 14, and sometimes it comes as early as the middle of October. However, frost does not injure maize that has reached maturity.

361 Before proceeding to Sonoita, which is only twenty-three miles from here, I made a trip south to Quitovac, where I expected to find mail-matter awaiting me. There used to be some gold mining here, but the houses that make up the only street are now mostly abandoned. Two or three Mexican families live there and a small store is maintained. The main population consists of Indians, who live all around, some of them being possessors of cattle and a few having small fields. It grew dark before we arrived, and while we were arranging our camp in the quiet evening a young Indian rode up like a whirlwind as fast as his horse could gallop, stopping as suddenly as he had appeared. This is the Mexican way of "showing off" or making oneself conspicuous, and was distinctly discouraging to one who was looking for primitive people. My two kodaks were lying on the ground and miraculously escaped his horse's hoofs.

312 The principal attraction of Quitovac is the sufficiency of water which at all times oozes forth in various small springs at the edge of the low mesa, so-called. The latter is a deposit of calcareous matter which a quarter of a mile wide stretches behind the houses for a mile and a half in the general direction from north-west to south-east. Fossil remains have been found here, as well as at a ranch, Represa, five leagues east, where in making a dam some large animal was encountered five feet below the surface. Also at Bánori and other places "bones of giants" have

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

323
415
172



Height, 6.5 ctm.

Height, 21.4 ctm.

ANCIENT POTTERY VESSELS OF THE PAPAGUERIA. EXCAVATED BY PAPAGO INDIANS NEAR FRESNAL, ARIZONA

[Facing p. 170]

312 been found which might bear palæontological investigation.
At Quitovac Mexicans as well as Indians have dug
about a dozen small ditches, the longest twenty feet, into
the calcareous embankment for the purpose of giving the
823 water freer egress. Judging from these cuts, the deposit,
or mesa, rests here on fine sand at a depth of from six to
eight feet only from the surface.

773 The Indians have a fabulous tradition that where this
823 whitish deposit now rests there was once a square lake,
in the middle of which lived a big animal that ate people. What kind of animal it was is uncertain for, as my informant, the oldest man there, said, "those who knew are dead." It was able to smell people at a great distance, and when travellers came that way they never returned to their homes, for they were eaten by it. In this emergency the Papago finally went to the cave where Íitoi lived in the Black Mountain (Pinacate) and asked him to help them. Íitoi said he would come and on the road he made ready his weapons (*váuk*), which were of hard stone, dark in color, and very large. He made four of them, and they were sharp and thin, being a kind of dagger or javelin.

"If the animal kills me, you shall see red clouds tomorrow, but if I kill the animal, you shall see white clouds," Elder Brother said as he entered the fray. The animal swallowed him, but he cut out its heart and made his way out through its flesh, and it sank to the bottom. Next day white clouds appeared around the lake, one at each corner of the world, and the people understood that the animal had been killed. Ever since the mesa has remained white, like the clouds.

823 [411] The weapons mentioned in this story[1] were probably made from obsidian which still serves as material for the making of arrow-points for ceremonial use. The obsidian is worked with a bone.

178 181 My camp was on the small plain on which the medicine lodge is situated, near an unusually well-grown mezquite tree, the shade of which is enjoyed by participants in the feasts that are given. In the evening spent here I could hear talking from the medicine lodge, but the old man, Miguel, who is in charge, complained much of the indifference of his countrymen, the younger generation never coming any more to the counsel house. The Indians here, in fact, are much spoiled by Mexicans and mescal brandy, and present to-day little of interest to the investigator. The same remark applies to the Indians of Sonoita, though in a lesser degree. A few, just a few, of the Mexicans exploit the Indians for their own purposes. It happens even that they ingratiate themselves by giving good advice—good for their own pockets—charging the confiding Indian for the advice. On the other hand, it must be said that the Papagoes of Sonora are in general treated with much more consideration than in Arizona. The Mexicans look upon them more as their equals, and the result is that the so-called civilized Indian is noticeably more polite in his manners in Sonora than in Arizona.

796 The great annual harvest feast for which Quitovac is famous, and to which people congregate from all parts of the Papagueria, is still kept up. It is performed in the month of August on a stretch of level ground half a mile

[1] [of the origin of the whiteness of a mesa. -Analyst]

distant from the lodge. Mexicans who have seen it describe it as a gorgeous affair. Its first object is rain, and then the preservation of good relations with Íitoi, Elder Brother and Creator. The sacred paraphernalia are afterward put away in some distant cave. The feast is already on the decline and as soon as the old man in charge at present dies, it will no doubt pass into oblivion.

[pp. 174-205 not processed]

000 sky became cloudy with occasional light showers. Two of the Mexicans went out to look for *carne* (meat), which was sadly needed where so many people, all with ravenous appetites, were assembled. My principal hunter, whom we called Charlie because, though a Mexican, he hailed from Arizona, had been promising us mountain-sheep for two days. "At this time of the year," he said, "the sheep are on the tops of the mountains, where the females are having their young." But scaling the tops brought him no reward and he did not find even one fresh track, so his compatriots began to make merry with him.

About the middle of the day, however, our attention was suddenly attracted by the repeated sounds of rifle shots from above in the mountains. After a while our hunter appeared on top of a sloping ridge above the camp and shouted for a burro to carry the quarry to camp, a message which gave us all much satisfaction. It was a fine, large ram which the combined efforts of three Mexicans lifted up on the pack animal. In camp it was hoisted by the hind legs to a branch and carefully skinned and opened. In the stomach were found the flowerstalks as well as leaves of the white brittle bush, an herb called *golondrina* (*euphorbia polycarpa*), reddish in color and blooming at that time, also some of the parasitic plant that grows on the palo verde and palo fierro. Another and smaller mountain-sheep was brought in and an essential part of our provisions was successfully settled for some little time to come.

778
782 Quelële had put in readiness all the sacrificial objects we had brought along for our proposed visit to the sacred

cave, and he had made several improvements in the arrangement 778
of some. As the time drew near for our excursion, 782
I felt little inclined for the vigil of one night
which had been agreed to, so I asked him if a couple of
hours' devotional exercise might not be sufficient for our
needs. Clemente and Guadalupe, though perfectly willing
to comply with the conditions, confessed that they
did not know any Pinacate songs. By this and similar
arguments we succeeded in changing the old man's
mind, and he delighted me when after thoughtful reflection
he declared that it was not necessary to sing now that
we had so many sacrificial things.

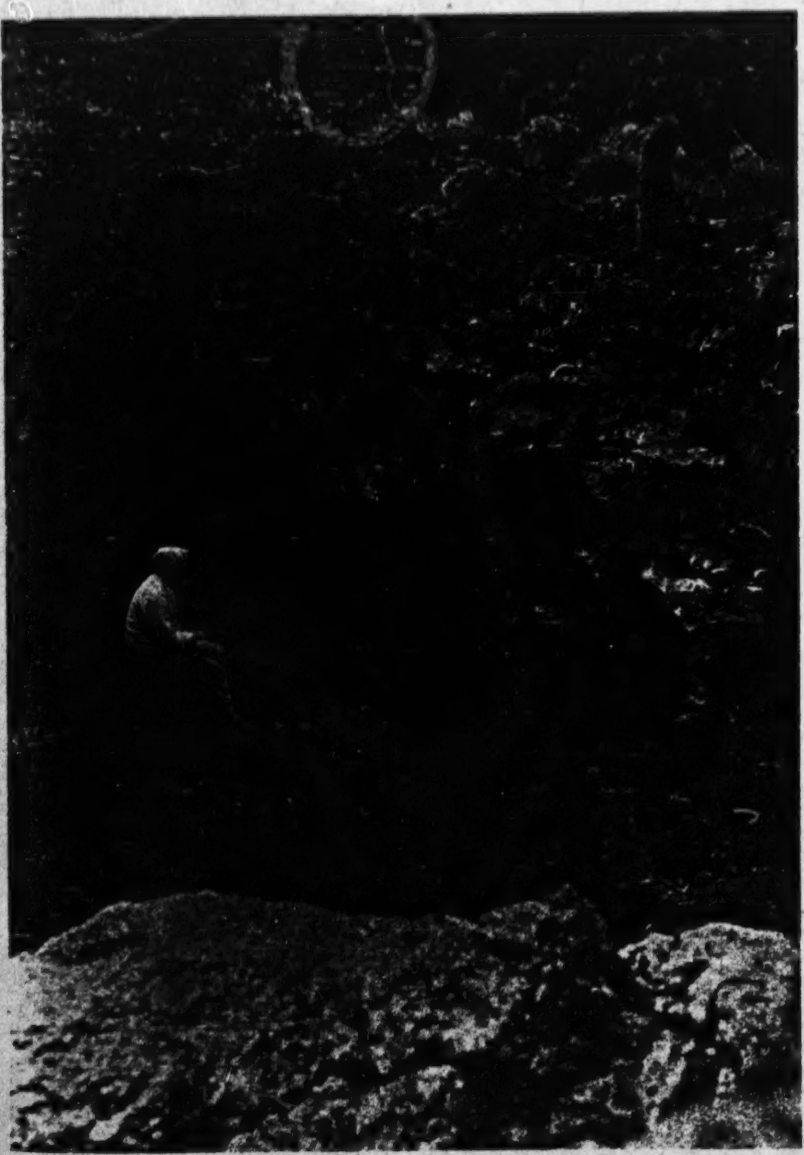
I had decided to take Monday, January 3, for the visit, 778
combining with it an ascent of the one of the two peaks
which was nearer to our camp. In the morning the wind
changed to west and north-west; a chilly, light shower of
rain fell, but when we started from the tinajas for the
ascent at 10.40, the weather was clear, there being only
a few nimbus clouds in sight. As we followed the fairly
distinct Indian trail that winds its way along the ridges [262]
upward, I observed the chuparosa (*beloperone californica*), [824]
the flowers of which are eaten by the Papago, and also
quantities of the well-known plant chia in the small arroyos
and declivities. One hour's march brought us to the
base of the cinder-covered cone where the cave was situated.
Many years had gone by from the time of Queléle's
last visit to the sacred precinct; his hair was not gray
then and more than one generation had passed since.
He could not at once find the object of our trip and half
an hour was spent in searching for it in the lava flow.

778 There was an entrance to a subterranean cave which he distinctly remembered not to be the right one, and here we noticed some marks cut in a sahuaro which was growing near the hole that led downward. Our cave turned out to be a long natural tunnel, the bottom of which ran for some twenty feet below the surface. The roof of the tunnel had fallen in for about ten yards just where the entrance to the holy place had been, and hence our guide did not at first recognize it. The passage is believed by the Indians to run westward underneath the mountains,
[776] then under the sea until it reaches an island where Elder Brother's wife lives. The god has another though less important "house" some miles from this cave on the same side of the mountain, but this I did not visit.

778 It evidently filled Queléle with dismay that "Íitoi's
[776] house had fallen down." The god himself had caused
782 this destruction in anger against the people who no longer came to deposit offerings and do him homage. Some old, weather-worn sacrificial objects were observed around a small natural terrace down in the opening, as well as in the cracks of the rocky sides. Our guide was too old to descend himself, but he asked the two Indians, Guadalupe and Clemente, to perform the sacrifice for him. They clambered down and Guadalupe deposited in a crack of the old lava the ceremonial objects we had brought along. These objects were an arrow, as a mark of respect and for the use of the god; a prayer-stick, colored by red ochre with a small eagle plume tied to its top, to secure luck in hunting; a bunch of yucca fibre tied in a knot, in order that the wind might

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

778



GUADALUPE AT THE SACRED CAVE OF PINACATE

[Facing p. 208]

778 be favorable to us; some cigarettes for the god's personal
782 use; a piece of blue glass bead necklace, for the god to use as appendages for his ears and for the septum of his nose. On their own account Guadalupe and Clemente each placed a strand of fibre in order that nothing untoward should happen to either of them while on the expedition, asking especially for protection against storms.

While this was being done the old man lighted a cigarette and, turning his face toward the west where the sea is, though hidden from view by the peak that rose above us, he made his prayer aloud to Íitoi, smoking now and then and blowing the smoke in the same direction.

"I did not come to visit you because the weather was bad," he said. "Now I have come to leave these things here. I could not find your house because it is so different now. With whom are you angry? Perhaps you are angry with us because we do not visit you more often. A man comes here from the other side of the sea to know your house. I bring him and his companions from Sonoita. Give good luck to the man and to us all. Give good luck to the hunters that he has with him. Give them a mountain-sheep that you do not need for yourself. Give me good luck on my return home. Don't let it rain while I travel. Stop the wind."

000 The ceremonies over, he began to make his way back to camp while we continued our ascent at one o'clock in the afternoon. Near the rim of a small crater, two-thirds up from here, quails and a cotton-tail enlivened the scene. I had expected to be troubled by

[pp. 210-267 not processed]

000 ulated myself on having saved the expedition from possible disaster. Next morning, by digging six feet deep, fairly good water was procured on the beach of the salt deposit. The two mules which were so particular had been without water for over seventy-two hours.

We spent one day here recuperating and trying to collect the three animals, two of them donkeys, which we had been obliged to leave behind, but in this we were only partially successful. Our horses were in a bad way; these animals, however patient, are not serviceable for such a trip, as they are too fastidious about their food and water. A horse prefers not to eat rather than to try food he does not know. In fact, only two of them reached Sonoita again, and this was accomplished only through the heroic efforts of their owners, one of them walking almost all the time from Colonia Lerdo and the other keeping up his horse's strength with a sack of oats which he had succeeded in securing there. They were large, splendid looking animals at the start, but, as my guide said and as is generally true, "the horse that enters the médanos never comes back." Even my riding mule began to show signs of fatigue.

317 The salt deposit is at a bend of the slough, and is only about a quarter of a mile long, some two hundred yards broad, and is apparently shallow. The salt is found in layers; along the water edge it is rose-colored and in the central part quite hard and fairly free from impurities. The sea, which is three miles off, is said by the Indians to reach here twice a year. This salina is interesting only because it has from time immemorial yielded the main

supply of salt for the Papago Indians, who still come here 317 even from as far away as the Gila River. A few Mexicans also, of outlying places such as Quitovac and Sonoita, obtain this commodity from here. The main route fol- [487] lowed by the Indians passes over Quitovaquita, Tinaja del Cuervo, and La Soda, and there is also a trail from the Tinaja del Cuervo direct to Quitovac.

Guadalupe pointed out to me the place where the Indian expeditions camp among the greasewood bushes close to the shore. He also showed me where the Indians, before attempting to gather the salt, had their ceremonial [526] race on the deposit, running four times either forward and backward or one side up and the other down. He himself has been too much with Mexicans to consider any ceremony necessary for fetching salt, but at Chujubabi, where he often lives, he has seen Papagoes pass on their way to another deposit on the coast, called San Jorge, fifty miles from there.

Leaving their horses at the foot of the range of Chujubabi, the Indians would run on foot up the hills, nude but for a cloth around the loins and a ribbon tied around the head. Reaching the top, they would stop in a line all looking toward the distant salt, and every one would make a waving motion with the right hand, from out in toward the chest, one time only, and then they would descend again. The old men are left in charge watching the animals so that they do not drink water until the return of their owners. There is no water from there to San Jorge, the distance being covered by the Indians in a day and a half. This salina, which is said to be only a couple of

317 hundred meters in diameter and at long intervals covered
by the sea, is still popular also with many Papagoes north
of the boundary line. Their expeditions pass La Nariz,
Espuma, and Chujubabi, and the time to go there is in
April and October. Sometimes there is no salt found,
when those Indians who are in the habit of visiting there
come to the Pinacate salina.

[484 The expeditions to the salt deposit, where we had our
721] present camp, used to consist of thirty or forty men—"as
317 many as when going to fight the Apaches," to use the ex-
783 pression of the most prominent leader of these expeditions
to-day, whom I met at Santa Rosa in Arizona. In this
case, however, they are all unarmed. On the road to
[261] and from the salina the Indians eat and drink very little,
their only food being pinole, a handful to each, three times a day, eaten in the morning before the start, at noon, and in the afternoon. It is mixed with water, and whatever little may stick to the cup after its contents have been eaten is buried in a hole made in the ground. Nobody drinks water without permission; they wait until the leader tells them to do so, and drink only when told to stop on the march. The party travels very silently, only elderly men who have undertaken the journey before talk, and nobody turns around either on the journey out or on the return. No member of the expedition can scratch himself unless he uses for the purpose a special implement made from a twig of the greasewood.

In the evenings going and coming they receive instructions from the leader concerning the care that must be

taken both in the gathering and loading of the salt as well 317
as in ceremonies and sacrifices. They smoke tobacco and 783
they all pray to the sun and the sea for health, long life, and for rain.

Only toward midnight do they go to sleep. The leader carries with him six small sticks, pointed at one end, but without the usual plumes, to deposit in different localities, one in each of the two places where water is found on the long trip, one at an ancient waterhole, one in the salt,
one "where the sea used to be," and another is thrown [841]
into the sea, which sometimes does not accept it if there is menstruation in the leader's house. He has also three cobs of corn of abnormal growth, flat and deformed and called by the Indians "flat-head corn." The first evening on the road he takes grains from these, four each time, chews them, and then spits into the mouth of every horse to make it strong. Some meal ground from the same kind of corn-cobs is carried along to be sacrificed to the sea.

They arrive early in the day. After having hobbled their horses each man takes off his clothing and places a breech cloth around his loins, and they all walk in a line down to the salt, the leader following, carrying a prayer-stick. Those who have not been there before run four times in the slough over the salt deposit, the others twice. Quite a distance is covered and some do not return until nightfall. When my informant, the old leader, was young, he used to run on such occasions what would be equivalent to sixteen miles. When the race is over every one rubs his chest, arms, legs, face, and hair with salt and then has his

317 handful of pinole, whereupon the salt is spread out to
783 dry. The party next moves down to the sea; going into
it up to their knees, each man carries corn-meal in his
left hand and, watching for the waves, throws one pinch
of it, caught with all fingers, on each of four successive
waves. He bends forward when a high one comes lest it
might throw him on his back, which is a bad thing as it
would make him ill. They do not indulge in any sea
[823] bathing, for the ocean is too clean to allow them to soil
it, they reverently say.

Toward sunset the salt is gathered in sacks, about
one hundred pounds in each, two of these making a
[777] load. Great care is taken that no salt be spilled on the
road as this would bring about some misfortune. Every
one takes back with him a piece of silicious sponge which
is found on the beach and which is kept carefully from
[755] year to year. This is considered a good remedy for external
use. But the leader may take a bite of it, chew
it, fill his mouth with water, and spray this through his
[533 lips on the men. Members of a salt expedition learn new
154] songs on the trip and they say they dream them while
asleep. Among the gifts of the sea may be a beautiful
wife, luck in hunting, or swiftness in foot-races. After
their return they must stay away from their houses
from ten to sixteen days. A good deal of their time
is spent in singing to the accompaniment of rasping
sticks, and after having taken a bath every fourth day
317 the man is able to join his wife again. According to accounts
439 of fifty years ago* the Papagoes supplied Tucson

---

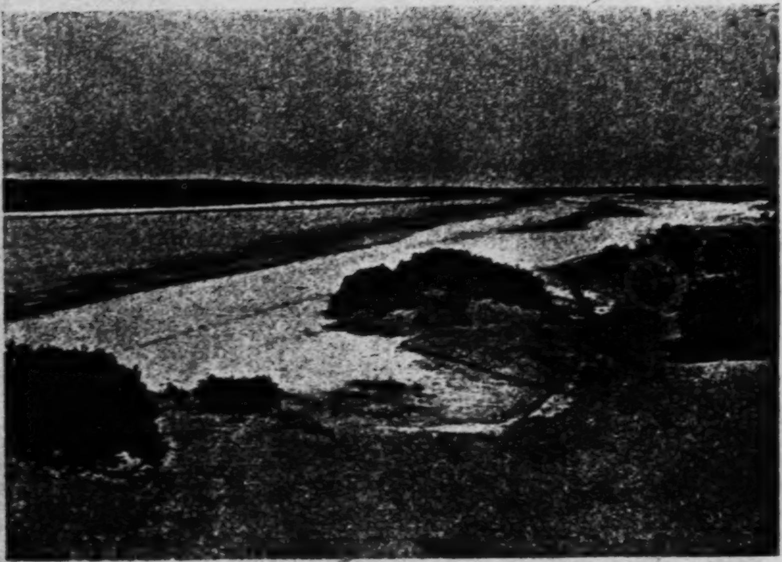
* See California Notes, Fourth Series, in *California Farmer*, 1863.

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

133

BEAUTIFUL EFFECTS OF WIND AND SAND, NORTH-WEST OF POZO DEL CABALLO

317



THE PINACATE SALT DEPOSIT

Papago salt expeditions camp between the two clumps of greasewood to the left and in the middle

[Facing p. 272]

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

317 439 and a mining company with thousands of pounds of salt annually. This was undoubtedly brought from this Pinacate deposit. Much of the salt used to be exchanged for wheat with the Pimas.

[Pp. 274-328 not processed]

000 nicer disposition than Pedro, in an emergency I think I should rather trust myself to the brutal sagacity of the latter.

181 184 Judging from these two and from a third one, Agustin, that I knew, the sand people were not a pleasant lot to deal with. They were rapacious and probably merciless to strangers, whether Indians or Mexicans. Agustin was a distant, disagreeable kind of a man, whose confidence it would take years to win. [579] According to Mexican accounts, the areneños formerly made the roads dangerous to pass, and nobody could follow them into the sand dunes to their principal retreat at Pinacate.

[101] 184 These Papagoes were called Híatit Óotam, "sand people." According to my companion, the medicine-man Pancho, who spent his early life in the dunes, they were not many in number and used to travel all together. [164] He asserted that a peculiar disease accompanied by the vomiting of "yellow and green and then blood" killed most of those natives, and thought that it was brought from Yuma. The course of the disease took from four to ten days. It probably is the same affliction that is mentioned on the Papago calendar stick (page 74) as having occurred in 1851. The remaining four families decided to retire to other parts and for the last forty or fifty years the sand dune country has been uninhabited. [161] These natives probably never exceeded in number one hundred and fifty all told, and their head-quarters were at *Hótunikat* (sunset), south of Pinacate. 796 184 The great annual feast, now given at Quitovac, was removed from the Pinacate region before my informant's time—thus at least over

184 seventy years ago—because the old men who had charge
796 of the ceremonial objects of the feast had died, and it
was decided that the latter should be taken care of at Quitovac.

184 These sand people were intelligent, healthy, and able-
221 bodied, and managed to make a good living in an abso-
[147] lute desert. Their existence depended upon the knowl-
224 edge of the few places in the mountain ranges, not even
[312] one in each range, where rain fills the tinajas, as well as of the few places along the coast where water can be found by digging for it. Once where to look for water is known, the difficulties in making a living out there are not so great as one would expect. In hot weather they followed jack-rabbits in the loose sand until the latter were exhausted, and caught muskrats by burning the accumulations of cactus spines with which those animals keep enemies away from their burrows. They also killed mountain-sheep, which were not a difficult quarry, with their bows and arrows, especially in the large craters, and they were even able to approach mule-deer and antelope near enough to kill them by the same weapon. Lizards were eaten. At certain seasons they went to the coast for the fishing, catching as many fish as they wished.

184 A single agricultural site may be attributed to the
241 sand people, called Súvuk, south-east of Tinajas de
Emilia, in Pinacate. Maize, squashes, and beans were planted here by means of a stick, on a very small scale, but the majority of these people had no agriculture what-
184 ever. They found good edible plant food in the dunes,
222 especially *ammobroma sonoræ*, the wonderful camotes

which the Indians knew how to gather all the year round, 184
though after May that part of the plant which is above 222
ground withers away. They had their season of chia and
used to come as far as Quitovaquita and Santo Domingo
to gather mezquite beans (called by the Mexicans *pechita*)
and eat sahuaro and pitahaya. Near all the tinajas are
seen round holes from six to ten inches deep, made into
the solid rock, in which these Indians pounded mezquite [252
beans. Their pestles are frequently found. The beans 412]
of the palo fierro were toasted, ground, and consumed as
pinole. After the scanty winter rains the juicy plant of
the sand dunes, *ænothera trichocalyx*, was boiled and eaten.

The clothing of these people was made from the skin 184
of mule-deer, antelope, or mountain-sheep. The hair was 281
first removed with a bone taken from the lower foreleg
of the animal, and the skin was smeared with the brains.
The root of the torote tree, crushed and left in water, furnished
necessary material for the tanning process. The [291]
man wore shirt and breech cloth, the woman a short skirt.
They killed sea lions on the rocks by hitting them on
the nose, and from their skins sandals and straps were
cut. From the badger's hair they were able to plait [301]
ribbons for the hair and make twine to be used for the [331]
breech cloth. Women wore sandals, but no hair ribbons.
The skirt was kept up by strings of buckskin.

184
The burden basket was not used, but they made carrying 285
nets as well as pottery, material for which is abundant 482
on the coast. Baskets were manufactured from torote,
willow, and bulrushes. In order to make bows, these 184
Indians travelled as far as the Colorado River to get 411

184 willow as material. Arrows were made from the arrow-
411 bush. Arrow-points of hard stone have occasionally been
found in that country, but never stone axes.

184 They had foot-races and also practised the game of
[526] throwing with the end of a thin pole two short pieces of
wood which are linked together. (Page 89.) In the
184 winter time they lived at a higher elevation in the moun-
221 tains where they erected grass huts. Once a year a jour-
[439] ney was made to Yuma to barter with the Indians there,
and maize, tépari beans, and squashes were exchanged
for baskets and sea-shells. Remnants of these people are
184 living at Quitovaquita and the Growler Well, both places
361 in Arizona. A few families are said to live near the rail-
way station, Adonde, near Wellton, on the Southern Pacific
line.

[pp. 333 to 343 not processed]

CHAPTER XXII

PHYSICAL AND MENTAL CHARACTERISTICS OF THE PAPAGO—EFFECTS OF CONTACT WITH WHITE MAN—MARITAL RELATIONS—WOMAN'S HIGH POSITION—INDUSTRIES—DIVISIONS OF THE TRIBE—RELIGION AND MYTHS—RACES AND GAMES—FIGHTS WITH APACHES—SHAM BATTLES—PRESENT CONDITIONS AND PROSPECTS OF THE PAPAGO

147 To the characteristics of the Papago which have already been given, I shall add here some observations and notes which may help to complete the picture of his present status as well as of his past.

These Indians are naturally very healthy and many grow to be a hundred years old or more. A few years [482] ago a woman who went out to gather pitahaya returned with the basket on her head full of fruit and a newborn babe in her arms. The total weight probably was not less than forty or fifty pounds. The heaviest baskets, when loaded with the juicy cactus fruits, may weigh as much as a hundred pounds. A native Indian is less affected by inflammatory processes than a white person; wounds heal by first intention. The following case, although referring to a Pima Indian, may properly be mentioned here, as the Papago are of the Pima tribe. A woman in childbirth was unable to deliver the placenta; but she recovered in a few days, though an American doctor, who saw her, expressed the belief that she would die.

115
142
291
492

Papago: Guadalupe, my companion from Quitovac

Papago: Miguel, medicine man from La Nariz

Girl
Parents: Chinaman and Yaqui

Boy
Parents: Spaniard and Papago

[Facing p. 344]

302 The men frequently have slight moustaches. At
[142] present the men all have their hair cut short, but a luxuriant
[832] growth was formerly considered a standard of
beauty. It was occasionally washed with an infusion
[824] from the roots of a vine called *ádofi*. Sometimes these
[751] natives would plaster the head with clay, to kill parasites
and ensure a better growth of hair. The women
still take great care of this ornament to their persons and
are often seen brushing it with brushes made from the
roots of sacaton grass. With the children, it is cut so
that it may grow strong, and the cut hair is twisted into
a cord which is used in tying together parts of the burden
basket as well as in the tying of the saddle-bag.
Formerly the custom was to leave the children's hair
long on top of the head, back of the neck, and in front
[149] of each ear. I saw a left-handed man and a left-handed
woman in the tribe. If it be permissible to draw any
[513] general conclusions from the sound sleep of my companion,
Pablo, these natives sleep unusually soundly.
One morning, while he was with me, he woke up several
yards below his bedding, having rolled down a declivity
[264] during the night in his sleep. The Papago avoid eating
food hot from the fire.

157 They possess much force and stability of character, are quick of perception, loyal to the white man that they like, and if in danger do not cry for help. Under her natural bashfulness the woman hides sterling qualities of efficiency in household work, constancy, and faithful adherence to duty. These Indians are industrious and have a remarkably even temper; thirty children

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

may be seen playing harmoniously together, where a similar gathering of small Caucasians would soon result in discord, fights, and tears. The children and young 261 [824] girls have three kinds of chewing gum; the one which is most commonly used has been mentioned already, another is procured from the pod of a vine which comes early and dries in July; by squeezing the pod a milk is secured which when boiled yields a gummy substance. 177 576 These natives never shake hands; they come and go and are never obtrusive. In the circumstances under which I travelled, I liked that custom; it made me feel independent and equally polite. When an Indian comes to shake hands with me, I know he has changed his mode of life, for one may be sure that he learned that custom from Americans or Mexicans. [194] Their language is not sonorous, as it is full of guttural sounds and half-pronounced syllables. [801] Four is their sacred number.

164 In the autumn of 1909 there was a mild epidemic of an eye disease among the Papagoes of Sonora as far west as La Nariz. The eyes were red and inflamed, as in conjunctivitis, and the pain evidently was very great. They probably contracted this disease from the Mexicans.

147 164 In his changed habits of life, inhabiting houses that do not admit air and adopting clothes that debilitate his magnificent physique, the Papago, when he catches cold, is unable to throw it off in the same way that a white man does. It very often develops into pneumonia and consumption, which awful disease is the scourge of the tribe, nine out of ten deaths being due to tuberculosis. The children bring it from school and even old people

die from it, having acquired it through contagion. 147
Although in no way a prison as to its restrictions, 164
nevertheless the school as at present conducted does 871
them harm physically. The confinement to which they 147
have not been accustomed seems to undermine their
health. In these days of advanced methods of teaching
some remedy for this condition no doubt will be
found. One absolutely necessary change is to alter the 600
construction of the school-houses so as to make them
sanitary through unlimited access of air. Even the
Presbyterian Mission, which has been of considerable
benefit to the Indian, has erected outside of Tucson
incredibly inappropriate buildings, made of brick and
substantial, to be sure, but singularly out of place in the
glare and heat of the Arizona desert. Prof. R. H.
Forbes, of Arizona University, told me that in the White
Mountain Apache school, at White River, ninety per
cent of the children have tuberculosis, chiefly glandular.
This statement was made to him by the physician in
charge. Would it not be better to leave the Indians uneducated
than to proceed in this manner?

Not long ago the makai (medicine-men) had as many 595
as five wives each, while the usual number for the ordinary
man was two. At present it is very rare to find a
Papago with more than one wife, and the average number [162
of children in a family is usually no less than eight, 165]
but the mortality among infants is great. The position
of woman is equality with man. To be sure, the man 562
never carries burdens—that is relegated to the woman's [462
domain—but she is the mistress of the house. She is, 482]

562 in fact, the "boss" of the household and gives her husband as well as her child his portion of food. She is systematic, while the man, in whom the characteristics of the hunter still survive, has little or no order. Her vigilant eyes look after everything and she is consulted in all transactions. The dogs follow the woman and belong to her, the husband rarely speaking to them. [422]

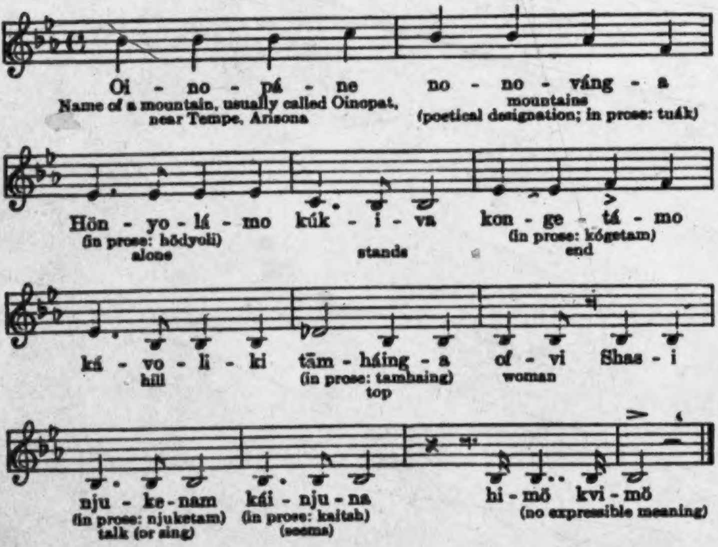
581 Sometimes a young man will marry a woman more than old enough to be his mother since, under the changed conditions of the tribe, many of the young fellows do not know how to take care of themselves. He may work for an elderly woman who owns cattle and behave so much to her satisfaction that marriage results, and women have in this way been known to make manly men out of flippant youngsters. The children are treated kindly by the parents and are kind to each other. [855]

584 [534] Formerly a bamboo flute was played by a young man, especially in the evening, to attract the attention of a girl, though the ultimate choice of a partner rested with his father and mother. Up to recent times the sons were obedient to their parents and readily consented to marry the girls picked out for them. A son was instructed how to behave in order to find favor with a nice girl with whom appearances weigh little compared to the noble qualities of being a good hunter, not lazy, and an efficient agriculturist. It is the girl's father who makes the first advances in a matrimonial venture. He talks the matter over with the father of the boy who, however, sometimes may decline. But if the father is able to say that his son is willing, the latter betakes him-

self to the girl's house and stays there four nights. Her 584
mother then takes her to the bridegroom's home and
leaves her there. No services of the medicine-man are 585
necessary; if they mutually agree to live as husband and

PIMA SONG

USED WHEN THE YOUNG GIRLS COME OF AGE [533]


Oi - no - pá - ne
Name of a mountain, usually called Oinopat, near Tempe, Arizona
no - no - váng - a
mountains (poetical designation; in prose: tuák)
Hön - yo - lá - mo
(in prose: hödyoli) alone
kúk - i - va
stands
kon - ge - tá - mo
(in prose: kógetam) end
ká - vo - li - ki
hill
tām - háing - a
(in prose: tamhaing) top
oí - vi
woman
Shas - i
nju - ke - nam
(in prose: njuketam) talk (or sing)
kái - nju - na
(in prose: kaitah) (seems)
hi - mŏ kvi - mŏ
(no expressible meaning)

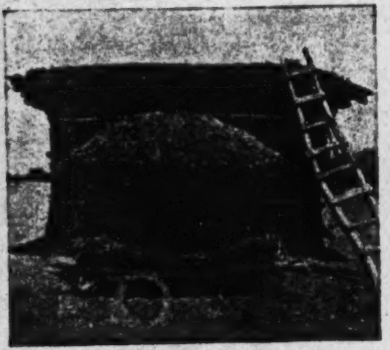
This song may still be heard among the Papago, *e. g.*, at Ánekam rancheria in Santa Rosa valley, but it originated from the Pima.

wife, they remain in the house of the young man's father
until the latter's death. The son may make a house for 591
himself near by, but he helps his father in his work. If
the girl does not like the boy, she may walk back to her 586
parents. Conferences between the fathers will then ensue
to try to adjust matters and, until recently, sometimes the

586 father of the girl would decide to whip her with a rope
of rawhide to bring her to the proper way of thinking.

841 Certain periods of female life are looked upon with
awe, even by the civilized Papago. If a hunter touches
a woman at these times he will have bad luck or con-
tract some disease. Formerly a girl in this condition
could not touch her hair. If she wanted to scratch her-
self, it would have to be done with a stick, and even her
881 brother could not touch his hair. When the girls come
of age, dancing and singing are kept up for many nights
in succession in a very fatiguing fashion, as neither rest
nor food is taken. No intoxicating drinks are partaken
of, and one marvels at the exertions that primitive man
finds it necessary to undertake in order that the girl may
be started right in life. Formerly these ceremonies, each
time lasting four nights, had to be performed on four oc-
casions, and even thus the girl has to go for a few days'
[343] seclusion to the *bohôlikaki*, a house specially set apart
534 for women considered temporarily impure. The dan-
881 cing on such occasions consists of a forward and back-
ward rhythmical movement of two rows of men and
women facing each other and at the same time slowly
moving in a circle. The participants hold each other
by the hand, and the movements are in time with the
singing, four steps forward and four backward. In Quito-
vac where the Indians have been much influenced by
the Mexicans, although they have given up the dancing
part of the performances, the singing is kept up for eight
nights or more in succession.

844 When the woman feels that her hour is approaching,



PIMA GRANARY. MADE FROM TWISTED ARROW BUSH

343

HUT FOR THE ISOLATION OF WOMEN

142

PAPAGO: "RAINBOW," FROM LA NARIZ

[Facing p. 350]

844 she takes up her abode in the hohólikaki where she remains for over three weeks. She bears her child *accroupie* assisted by her mother or elder sister; sometimes an elderly woman is specially chosen for this, acting as 846 midwife. Formerly, for six days thereafter, the food was [262] made for the mother and brought to her; the diet for the first two days consisting of *atole blanco*, a kind of thin gruel made of maize or sometimes wheat, mixed with the seeds of the sahuaro fruit. Now, in imitation of Mexican custom, the period is extended to twenty days. The husband during this time uses a different gourd from the rest of the family when he drinks water.

553 Twenty days after the wife has returned from her 261 seclusion the medicine-man comes to the house to give the baby clay to eat and present it with a name. The clay has the same name, *pit*, as that used in pottery making, and it does not look in anywise different. In the afternoon, after having mixed a small quantity with water and placed the mixture in a sea-shell on the ground, he takes up a position east of it, while the parents, with the infant, stand to the west. He walks four times toward them, the last time hooting low like an owl. The parents have to take the drink first, then the baby. If the child is male, the medicine-man gives it to the mother first; if it is female the father drinks first. In administering the drink to the child, he also gives it a name, which the grandparents previously have agreed upon; with his eagle plumes he makes passes over the infant, and with the same object sprinkles some of the water on its chest, shoulders, and back. The advan-

553 tages which the child gains are supposed to be health,
261 strength, and luck; untoward happenings are also pre-
vented even to the family itself. If the birth occurred
[777] in the season of thunder-storms, the danger to the child,
or a near relative, of being killed by lightning will be
553 averted. For four days after the ceremony the parents
abstain from eating salt and jack-rabbit meat, and they
must not do much work; the father cannot hunt.

837 The natural characteristic of the Papago is to be vir-
684 tuous. According to Indian reports, a woman caught in
adultery used to be punished with death. In recent times
whipping has been the penalty and the custom of killing
184 her animals still prevails. The tribe has been notably
stable in racial qualities during centuries of contact with
whites. Intermixture to-day rarely takes place except
in Sonora, where the Mexicans have taught the Indians
new customs. In the out-of-the-way places of southern
Arizona a few Americans are known to have Papago
wives; they have children and to all appearances are
known to lead happy lives, for the lady of the house is in-
telligent, quite good-looking, clean, and very industrious.
During my stay at Sonoita several couples came to be
married by the civil authority there.

682 Murder was left to the family of the murdered person
to punish. From an American who speaks their lan-
838 guage and lives in the central part of the Papagueria, I
received what I must accept as reliable information with
regard to unnatural vice, which perhaps may be more or
less restricted to that locality. Several startling instances
were told me by him and also by a trustworthy Indian

who was present. Even a married man with full-grown 838
daughters was subject to this depravity. One young
Indian wanted to dress like a woman, but was prevented
by his father. A Pima Indian, after losing his wife, had [835]
a healthy child by his daughter.

In regard to the industries of the tribe, attention has 285
already been called to pottery making. Weaving was
formerly practised on a loom lying on the ground, but
the art is now lost. The Papagoes, as well as the Pimas,
are somewhat noted for their basket work, though neither
of them is as clever as the Apache in this respect. They 415
make trays and bowl-shaped ware for household work 285
and also some large, deep, water-tight baskets which, from
their principal use, may be termed sahuaro baskets. In
these is gathered the juicy fruit of the sahuaro; the sirup
and water are mixed for wine making and the wine itself
is offered at the festival. They are rare at the present 285
time. Women are the basket makers and in the best
ware the white material used is produced from strips of
young willow shoots, while the pods of the *martynia*
(devil's claw), split in two, furnish the black part of the
texture. The good workmanship of old is falling into
decline, and the significance of the decorative designs is [531]
almost entirely forgotten. There is only one woman at
the present time who is able to do first-class basket work,
and she cannot tell what the designs mean. In Sonora
the making of basketry has ceased to exist.

Granary baskets are still in common use in the Santa 285
Rosa valley. The large ones are made inside of the house,
the small door-opening preventing their removal. The

285 material of which they are made was formerly a certain grass, which may still be used, though generally wheat straw takes its place. Strips of mezquite bark are employed in the binding. The granary basket has a flat cover, made in the same way, which is sealed with mud. Sometimes it is plastered throughout with mud as a protection against rats.

285 The pleasing designs seen in the old baskets are rapidly disappearing on account of the deplorable lack of æsthetic sense among those who are eager to buy Papago baskets. The makers are actually encouraged to insert crude representations of men and beasts in preference to the former beautiful conventionalized designs which the innate artistic sense of the Indian had evolved. The trader also teaches the Papago to make the baskets quickly and cheaply, in order that more money can be made in the market from ignorant buyers. A society for the preservation of aboriginal American art is of urgent need and should be attempted even at this late day.

173 It is difficult to ascertain anything about the origin or early history of the tribe, beyond the traditions that the people when returning from across the sea left ceremonial sticks at Caborca, Quitovaquita, and Santa Rosa.

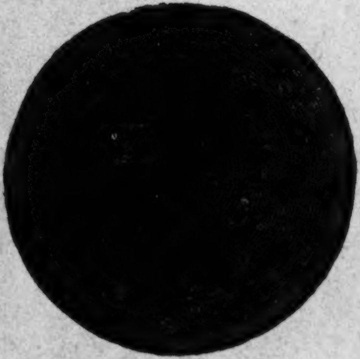
[611] The tribe is divided into five groups, descent being in
616 the male line. Their names have lost all meaning; two
822 of the groups (*mam* and *vav*) are known as red-velvet ants
(*võki óbimal*) and three (*ókul, ápap,* and *ápki*) as white-velvet ants (*'tóa óbimal*).* Any animal that has red about

---

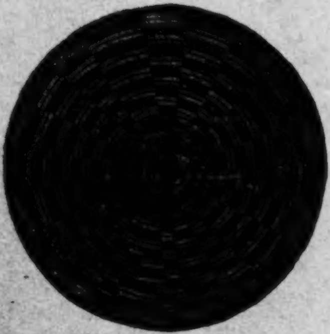
* The so-called velvet ants are females of certain wasps (of the family *mutillidae*).

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

285
531

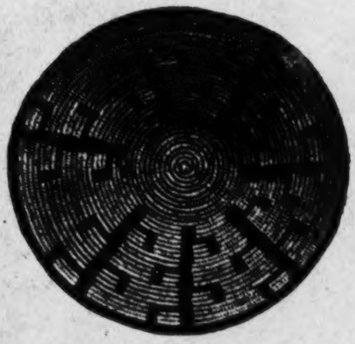


a. Dog tracks



b. Turtle

c. Martynia



d. Sahuaro

e. Juice falling from the sahuaro fruit; arrow points

f. Meaning unknown

DESIGNS OF PAPAGO BASKETS

[Facing p. 354]

822 616 it belongs to the red people. Members of salt expeditions formerly painted on their faces the color of the division to which they belonged. 822 773 The red people were, according to mythical tradition, the original owners of the country, but Elder Brother, *Síbu*, having been ill-treated by them, brought the white people from the underworld and after many big fights the red ones were almost exterminated, and even to this day they are fewer than the white groups. Much in the minority are those families whose children address their father as *mámekam* or *vávekam*. The rarest of the groups is *vav*, and the most common, *ápki*. The mounds are attributed to the red people.

631 The rancherias appear to have a division of their own, that part of the Papagueria which is comprised within Arizona being divided into four provinces. Probably the present District of Altar is included in one of them. These subdivisions are:

I. *Ánekam* (name derived from a leguminous tree, *an*) consists of the rancherias Ánekam, Kukómalik, and Tjúupo; in other words, the upper part of Santa Rosa valley as far north as the Kohatk people, who are Pimas.

II. *Hobóla* (meaning of the word unknown) is the north-western part of the Papagueria. These people extend west of the Quijotoa range as far as Gila Bend, including Aktjin rancheria, four or five miles south of the modern Maricopa railroad station. Their original starting point is said to have been Cacate rancheria and includes such rancherias as Pozos Muchos, Sauceda, Pozo Blanco, and Barajita.

631 [184 291] III. *Tótokvan.* ("Those who wear loose breech cloths." *Tókvan,* something loose. The designation alludes to the habit of the people of this section of using long or loose loin cloths or breech cloths, different from those worn by the other groups. They are at present more frequently called by the nickname *kíkima,* smart ones.) This section comprises most of the Santa Rosa valley, the Comobabi range, and extends east as far as San Xavier, which place was settled mainly by people from Santa Rosa. This is, roughly speaking, the north-eastern part of the Papagueria.

IV. *Kokeloroti* (Indian rendering of the Mexican *Tecoloteros;* from *tecolote,* owl). Their original name is *Tjukutkokam Kíkam,* "owl's cry inhabitants." *Tjúkutko,* owl's cry; *tjúkut,* owl, and *ko,* cry; *kikam,* inhabitant, derived from *ki,* house. These people are said to have started originally from the rancheria Tecolote, in Papago Tjúkutko, and extend from Indian Oasis southward, comprising such rancherias as Fresnal, Kõxikux, Tecolote, Sépanovak, and Pozo Verde. This section is approximately the south-eastern part of the Arizona Papagueria, and, according to the information of a Papago otherwise trustworthy, also includes the Mexican Papagoes.

771 773 Although the Papago, as we have seen, have elaborate dancing festivals, their religion is not regulated by exterior observances to such an extent as is the case with many other Indian tribes, as, for instance, that of the Pueblo Indians, or of the Huichols of Mexico, whose whole life is ruled by ceremonies and symbols. Many

still pray to the sun, which they call father. The deities 771
most mentioned are Elder Brother and Earth Magician. 773
The first of these is known under two names, Íitoi, which means "to drink it all," and Sĩhu, which was given him after the deluge, when he was the first to land. He helped Earth Magician at the beginning of time to bring order out of chaos, and may thus be termed the creator jointly with him. He created deer and other animals as well as the trees that bear fruit, making strong roots to hold the trees. He was a great singer. As we have seen, Baboquivari peak and Pinacate belonged to him, and here sacred caves, in which he was supposed to dwell, were devoted to his worship.

In their creation myths there are divergencies, as may 773
be expected. One version begins:

"In the beginning was Sky and Earth. Sky came down and embraced the Earth."

Another is rendered thus:

"In the beginning the world was all darkness and all the time everything was moving around. In that time there was born a child Tjívurt makai, Earth Magician, and he began to consider what to do to make the world quiet. He took up some earth, mixed it with water, and made a round flat cake which he put down on the world to calm it, but it was of no avail, for the earth kept on moving around. He tried to steady it, moving it back and forth, and in doing so he separated the earth and the sky. A noise was heard and another child was born, who was Íitoi. He came to Earth Magician who asked him where he was born. 'Earth is my

773 mother and Sky is my father,' Iitoi answered. 'Help me to put the world in order,' Earth Magician asked him. Iitoi consented to this. They made the sun, the moon, and the stars, and then in their light they set to work. Earth Magician took two small beads of perspiration, which he changed into two spiders which walked around the world four times, tying the earth and the sky together at the edges.

"Then the two magicians made people out of earth and water, but they turned out to be bad and fought and killed each other. The makers turned the world over and made new people, who also killed each other. Four times in that way they made and unmade their work. 'There is something bad in the world,' they said. Earth Magician went around making holes with his stick. Blood came up and washed the earth, and they created new people. But Earth Magician's people were queer —some with one leg, others with big ears. Iitoi became angry over this and disowned them. Earth Magician also was angry and went to the underworld and stayed there. Iitoi remained here among his people singing, but they did not like him and killed him on four occasions, and each time he would be walking about again the next day."

526 Characteristic of their social life are two kinds of races, eight different games for men and three games for women. The games still flourish but the races are on the point of disappearing. The most important of the latter is a foot-race, run by two men, in which a ball usually made from mezquite wood is kicked along by

each contestant. The ball must not be touched by the 526 hand. One or two men on horseback assist the racers in finding the balls and give them new ones in case their own break or accidentally are lost. The last great race of which I heard was given, eighteen years ago, east of the Quijotoa Range. According to a Mexican from Quitovac who was present, the Indians had brought herds of cattle, mules and horses, clothing and money, all to serve as betting stakes on the occasion. Fifty odd Indians kept admirable order. The two runners, who were nude but for a cloth around the loins and with a bandanna tied around the head, started northward early in the afternoon in the direction of Santa Rosa rancheria. They ran seventeen or eighteen miles before turning back. One of the runners became tired, which finished the race; then the assistants picked them up, giving each of them, in Mexican fashion, a seat behind the saddles of their horses, and in that way they returned to the starting point after dark. The winner was about thirty years old; the other, about fifty, had some gray hair. If my informant was correct, thousands of dollars were lost in bets. The Barajita rancheria alone came out two hundred animals short, and the Pozo Verde loss was no less. Many of those who lost had staked all their live-stock and the women wept. A race of less importance took place in the same region some seven years ago.

The Papago, as well as the Pima, was able to cope 701 with the fierce Apaches more efficiently than were the Spaniards and Mexicans. The young men were trained from childhood for future combats with the enemy. It

701 [789] It must not be forgotten what a part the supernatural plays in the Indian's life; cure for disease is sought less in remedies than in magic devices, and combat with an enemy means first of all a fight of magic with magic. Once, as one of their tales goes, an Apache was completely surrounded, but the Papagoes feared to attack him until one of them stepped forward carrying his shield with its symbolic inscriptions and supposed magic effect. The Apache fired his rifle at him, but missed his aim because he was overcome by the shield's magic power, which even split his thumb, so that he could not fire straight This was ascertained by the Papagoes when examining the body of the Apache afterward.

702 Nevertheless, the education of the boy included as a matter of course ability to handle arms and the mastery of all that pertained to making a good warrior. In the nightly meetings at the council house, he was taught, besides, how to practise for the races and how to hunt. A considerable amount of sane advice would be imparted to the young man, and I cannot refrain from quoting here the late Mr. Frank Russell in his recent memoir* on the Pima Indians, from whom the Papago segregated long ago. He describes the exhortations of a Pima father to his son in the following manner: "If you are wounded in battle, don't make a great outcry about it like a child. Pull out the arrow and slip away; or, if hard stricken, die with a silent throat. Go on the war trail with a small blanket. It is light and protection enough for

---

** Twenty-sixth Annual Report of the Bureau of American Ethnology,* Washington.

one aided by the magicians. Inure yourself to the cold 702
while yet a boy. Fight not at all with your comrades;
preserve your strength for the combat with the Apaches;
then, if brave, will come to you high honor. Be unselfish
or you will not be welcome at the fire of the friendly;
the selfish man is lonely and his untended fire dies.
Keep your peace when a foolish man addresses the
people. Join not in his imprudent counsellings. Above
all, talk not foolishly yourself. Bathe in the cold water
of the early morning, that you may be prepared for the
purification ceremony after killing an enemy!"

When an Apache campaign was decided upon, there 721
was much preparation for the fray, and the feasts and
ceremonies connected with the return of a victorious
party were among the most elaborate, foot-races and
gambling forming a part. If the Apaches killed some [821]
of the Papagoes, the former were believed to take the
clouds away, so the Papagoes had to go and kill some
of them in order to bring the clouds back. Sometimes
the Apaches would be discovered in a week, and sometimes
a whole month would pass before the encounter.
The provisions consisted of pinole; bows and arrows,
lances and clubs were the weapons, and almost every one [411]
of the party had a shield. The Apaches have been
credited with a superstition about fighting at night, and [821]
the Pimas at least are said to have used this disinclination
to their advantage. On returning, those who had 727
killed Apaches had to stay away from their houses and 783
bathe early in the morning before sunrise four times at
intervals of four days. One man was appointed to pro-

727 783 vide them with water and food, of which they partook sparingly. Meat and salt were forbidden. He would come by night and they would smoke tobacco together. The first night was spent in dancing. After sixteen days' seclusion in this manner, the feast would come off, but the dieting and abstention on the part of the slayers lasted sixteen days more. If a man had killed an Apache before, he did not need to go so far away from the house or be so rigorous in his diet as the inexperienced young man.

702 796 536 Sham battles used to be a prominent feature in the social life of the Papago. The last one was given five years previous to my visit to Ánekam in the Santa Rosa valley and there was some talk of having one again in the near future. In these sham battles dummies of straw are placed in the mountains, sometimes at a distance of a two days' excursion. In the evenings before the attack the men sit for a while in a large circle, their weapons lying in the centre, but they soon disperse around the different fires to sleep, while some of them watch. Somebody goes ahead and makes a big fire near the dummies, and the attack begins at dawn. Four men have been chosen to kill the dummies, only one, who leads, carrying a shield; they all have feathers attached to their hats or to specially made leather caps.

On their return there is dancing for four nights and singing; the dancing is similar to that of the sahuaro feast. Some of the men, who are well paid by general contributions, play the part of those who kill Apaches, imitating their actions; one of them carries a shield and

the rest have ordinary weapons. The four who killed 702
the dummies keep away from the dancing place until 796 536
the last night. They fast, and must not drink water. Pits are made in the ground, a hundred yards or more away, which are a foot deep and wide enough to hold a man sitting with legs crossed. Here the four warriors have to sit immovable during the whole night, holding the scalps of the supposed Apaches, and care being taken that they do not face either the sun or the moon. Special songs are sung for these men. One man looks after them, and they are under so much restriction that they cannot scratch their heads or any part of their body with their hands, but have to apply a small greasewood twig if the necessity arises. Their wives, who also fast, sit in pits behind their husbands. After the dance is over the four men still have to keep up the taboo and dieting four days longer; then they bathe, and when they go to sleep many songs come to them in their dreams. Among the Pimas, when the warrior had killed an Apache, his wife made a tray, with a large svastika design interwoven.

The primitive condition of Papago society is giving 578
way to the new, but not without a jar. In old times in the house of a prominent man, with his four or five wives, no quarrels would arise. When his household was increased by the additional families of his sons who, according to ancient custom, made their homes with him, the serene atmosphere continued; there was no question of mother-in-law, or other disturbing factors, in their nicely adjusted relations. The families were large and peace

578 and harmony reigned, but now all that is changing. The Indian who has to work for his living finds it hard to make [511] ends meet, and to support additional people becomes impossible, hence quarrels and unpleasant conditions begin to manifest themselves.

361 178 [231] Formerly they lived in large rancherias, but in the last twenty years the tendency has been to scatter. They have been touched by commercialism and are now showing energy in acquiring cattle and other property. Formerly, too, a family owned a couple of cows and a horse or sometimes they had no animals, but during the last twenty years the tribe has acquired a considerable number of live-stock, often twenty cows and from ten to twelve horses to a family. Four or five families are the individual possessors of a few hundred head of cattle, but there is no difference in their mode of life from that of the rest.

178 The women are clever in adapting themselves to the new conditions. I know of an instance where the wife made a shirt for her husband without ever having learned how to cut it out, and the garment, when finished, was very creditably done. What the girls desire most to acquire at school is the knowledge of music and dressmaking. Some of them have learned at the Presbyterian schools to play the piano, which redounds much to the credit of the schools. To develop man's sense for harmony and the beautiful, whether by music or other refining pursuits, is as important as to teach him to read and write.

The Papagoes recognize the white man's superiority and have begun to make money an aim in life, which may be the necessary step for their further advancement. 178 They have adopted civilized man's mode of dressing, his tools, vessels, and implements, sewing-machines, and even phonographs, bacon, bread, and coffee, and all the different brands of crackers and canned goods. Their ideas and manners are naturally changing. One prominent Papago complained to me that the women were gossiping now as white women do. These Indians still insist on speaking their own language, but they might just as well give it up, as they no longer preserve their traditions and ancient customs. The future augurs well for the Papago as long 080 as the government's wise prohibition against the sale of alcohol continues to be rigidly enforced. There is no trouble in civilizing the Indians by education, but a great step in the right direction would be to civilize the rough whites first.

[p. 366 is blank]

000

APPENDICES

[p. 367]

104
171

7: Lumholtz N-5 (1909-1910)1912 NU28 Papago NU28

APPENDIX I

SHORT VOCABULARIES FROM THE LANGUAGES OF THE PAPAGO, PIMA, AND COCOPA INDIANS

g̸ is pronounced as *th* in *think*.
l̄ is pronounced with a thick sound, almost as *r*.
x is to be given the sound of the Greek χ.
A letter placed as the *s* in *ˢtóa* is pronounced faintly.

In the Pima language only those words which are different from the Papago designations are indicated.

ENGLISH	PAPAGO.	PIMA.	COCOPA.
1 man.	tsiótsh.		ápa.
2 woman.	ófvi.		njesák.
3 boy.	viapókuli.		kuxumík.
4 girl.	tjúxjia.		nirshhá.
5 infant.	ál̄i.		kvemék.
6 my father (said by son).	nioók.		enikú.
7 my father (said by daughter).	nioók.		enjiá.
8 my mother (said by son).	ntjú.		intjá.
9 my mother (said by daughter).	ntjú.		intjá.
10 my husband.	níkún.		inkuriák.
11 my wife.	nihónik.		vĭsvéy.
12 my son (said by father).	niál̄itak.		xomá.
13 my son (said by mother).	nimát.		shaáu.
14 my daughter (said by father).	niál̄itak.		epɏa.

15 my daughter (said by mother).	nimat.		shaáu.
16 my elder brother.	nisis.	kö^{o}tju njuvöanak.	kasá.
17 my younger brother.	nishúupitsh.	ál̃itju njuvöanak.	nixhúl.
18 my elder sister.	nisis.	kö^{o}tju ófvi njuvöanak.	kasá komtjavíl.
19 my younger sister.	nishúupitsh.	ál̃itju ófvi njuvõanak.	nixhúl tjómkvas.
20 an Indian.		óotam.	metjapái.
21 people.	húmatshkam.		
22 head.	mo.		mukkúr.
23 hair.	mo.		ámuxväl.
24 face.	voihosha.		ijú.
25 forehead.	koá.		lxemeá.
26 ear.	naak.		shmal.
27 eye.	wi.		ijú.
28 nose.	taak.		ixhú.
29 mouth.	tjin.		ijjá.
30 tongue.	njúun.		ennjipäl.
31 teeth.	táatam.		ijjá evví.
32 beard.	tjínjevo.	öshpo.	ijjá lemírsh.
33 neck.	kósevo.		amapúk.
34 arm.	nóvfi.		ishá^{i}l.
35 hand.	nóvfi.	máshua.	ishá^{i}l.
36 fingers.	mámitjpot.	maúshötkik.	ishá^{i}l kusheráp.
37 thumb.	kúutjo.	kú^{i}tjo maúshötkik.	
38 nails.	hóotsh.		lkaxváu.
39 body.	tjúohok.		immátj.
40 chest.	pásho.		axtikkár.
41 belly.	vok.		itjú.
42 female breasts.	vípi.		

104
171

ENGLISH.	PAPAGO.	PIMA.	COCOPA.
43 leg.	káxiok.		em^{a}shíl.
44 foot.	tat.		immí.
45 toes.	mámitjpot.	tártshötkik.	immí kusheráp.
46 bone.	óo.		eniyák.
47 heart.	íbetak.		iyái.
48 blood.	úurt.		níxwat.
49 town, village.	kíhim.		^{o}hwá.
50 chief.	ósakakam (osáka = rod), also: ku (big).	tekúatshik.	
51 warrior.	sáhamakam.	hatjúik kiátam.	hxvá oskanyás.
52 friend.	náwatsh.		innjél.
53 house.	ki.		^{o}hwá; ^{o}hwa tsavíp (buried) is the designation for a house made of arrowbush and covered with earth.
54 kettle.	kóhiwone tákut (kóhiwo = boil, tákut = implement).	háa (olla).	klumás (olla).
55 bow.	káat.		ítjim.
56 arrow.	hápot.		ípa.
57 axe, hatchet.	hása.		sakárt.
58 knife.	váinom.		^{o}whí.
59 canoe.			ígelhu (boat of Mexicans). Kúpap, float, made of tule ("bulrushes," *typha latifolia*).
60 moccasins.	teva or shoesk (probably not original); sandals = kaika shoesk.		xamináu.

7: Lumholtz N-5 (1909-1910) 1912 NU28 Papago NU28

61 pipe.		tjúinikurt.	mõkwín (Mexican pipe). Úup (tobacco) njáasas (reed) is the name for native cigarette.
62 tobacco.	viv.	víhuvi.	ūp.
63 sky.	tetámokatshim (tetam=our (te) top (tam), kátshim=that lies prominent).	támaitjam.	mā.
64 sun.	taʳs.		ᵉnjá.
65 moon.	mársat.		xtlá.
66 star.	hóo.		kúxlkjap.
67 day.	taʳs.		ᵉnjám.
68 night.	tjúhok.		sinjám.
69 morning.	síal̄im.	máasi (séalam, to-morrow).	njáak.
70 evening.	hótonak.		netxáp.
71 summer.	tónjapk (heat).		ᵉnkipíl.
72 autumn.		tjókiapk.	
73 winter.	söōpk (cold).		xesúr.
74 wind.	hóivol̄i.		etxá.
75 thunder.	põopotk.	toáhem.	shukír.
76 lightning.	vöxpöki or vöpöki.		shuulám.
77 rain.	tjúoki.		ikwí.
78 snow.	kuv.		saˈniél (snow fell).
79 fire.	tai.	náata.	tlumár.
80 water.	shóotak.		xā.
81 ice.	kuv.		sesemís.
82 earth, land.	tjíuvurt.		mart.
83 sea.	katsk.		xarseíl.
84 river.	ákimal̄i.		xawíl.

104
171

104
171

ENGLISH.	PAPAGO.	PIMA.	COCOPA.
85 lake.	vámul̄i.	hötjulko shóotkam.	xinjú.
86 valley.	vóoshan.	sháakik.	
87 plain, llano.	tjuk.		metár.
88 hill, mountain.	kávol̄ík.		wí (stone, rock) manyú (high).
89 island.		sfkuli-tjúurtkam.	wixaktjul.
90 stone, rock.	hótai.		wí.
91 salt.	ōn.		eshír.
92 iron.	váinom.		
93 forest.	súosik.		pit.
94 tree.	ōs.		
95 wood.	kóak.	óos.	
96 leaf.	háhak.		°val.
97 bark.	úl̄itak.		shuyél.
98 grass.	váshai.		shmal.
99 pine.	hok.		
100 maize.	hóin.		^{a}ktjás.
101 squash.	háal^{l}.		xamitsá.
102 flesh, meat.	tjúokuk.		kikvái.
103 dog.	koks.		xart.
104 bear.	tjótum.		tumá.
105 wolf.	shúu.		
106 fox.	gáso.		martkevá.
107 deer.	ȼlík.	hwei.	akkvák.
108 mountain-sheep.	tjúrsa.		^{e}mmó.
109 beaver.		kóve.	
110 rabbit, hare.	tjúov.		xalxá.

111 tortoise.	kómaktjert.		xnjar.
112 horse.	kávio (*caballo*).		^{a}kwáka.
113 fly.	móal̄i.		shlimú.
114 mosquito.	vámok.		shimpúl.
115 snake.	vámat.		
116 rattlesnake.	kóoi.		awí.
117 bird.	óovik.		^{e}shā.
118 egg.	nónha.		shoáp.
119 feathers.	áan.	vópo.	shavál.
120 wings.	húukatsh.	aán or hök.	njurvír.
121 goose.			shimkoá.
122 duck (mallard).	vápkaik.		shaniyáslepasáb (niyá = mouth; slepasáb = wide).
123 turkey.	tóva.		urút.
124 pigeon.	hóji.	ókok^{ol}.	ilkú.
125 fish.	vátop.		sifl.
126 name.	tjúukik.		^{u}mul.
127 white.	^{a}tóa.		xamál.
128 black.	^{a}tjuk.		nihl.
129 red.	suvök.		xoát.
130 light blue.	stjúutak.	stámain.	xapsú.
131 yellow.	suvám.		^{a}kwars.
132 light green.	stjúutak.		xapsú.
133 great, large.	ku.		p^{e}tái.
134 small, little.	tjum.	hláasik.	ltjas.
135 strong.	sukúvök.		shepakinám.
136 old.	köl̄i (man), thing: hökjokam.		kuruák.
137 young.		vörtjutsh.	kviyunúk.

104
171

ENGLISH.	PAPAGO.	PIMA.	COCOPA.
138 good.	skúukatsh.	sép^{a}.	pvai.
139 bad.	pikúukatsh.	peáp^{a}.	xaták.
140 dead.	móki.		mushupá.
141 alive.	tóakam.		yupárt.
142 cold.	súupi.		tűr.
143 warm, hot.	^{a}ton^{i}.		lxáp.
144 I.	áni.		njăp.
145 thou.	ápi.		mapún.
146 he.	húkai.		nirshán.
147 we.	átjim.		njápa.
148 ye.	ápim.		mapúsa.
149 they.	húkam.		nirshán.
150 this.	íita.		pin.
151 that.	húkai.		shun.
152 all.	vö^{r}a.		sámel.
153 many, much.	mói.		ninjám.
154 who.	húdai.		maká^{i}n.
155 far.	mörk.		kur.
156 near.	pi mörk.	meá.	xarpái.
157 here.	íija.		upái.
158 there.	ámai.		shūĭ.
159 to-day.	itta^{r}sh.		njápum.
160 yesterday.	táko.		sinyár.
161 to-morrow.	síalim.		njákam.
162 yes.	hæo.		íí.
163 no.	piá.		láxem.
164 one.	húmako, sometimes: máto (in counting).		ushít.

165	two.	kok.		xuvök.
166	three.	vaik.		xamúk.
167	four.	kíik.		supöp.
168	five.	hútasp.		sheráp.
169	six.	tjóotp.		xamxúk.
170	seven.	vövak.		paxká.
171	eight.	kíkik.		supxúk.
172	nine.	hómokt.		xamxamúk.
173	ten.	vörstomam.		shahúk.
174	eleven.	vörstomam kámai húmako.		magshít.
175	twelve.	vörstomam kámai kok.		magxuvök.
176	twenty.	koko vörstomam.		shahúk vök.
177	thirty.	váiko vörstomam.		shahúk muk.
178	forty.	kíiko vörstomam.		shahúk supöp.
179	fifty.	hútaspo vörstomam.		shahúk sheráp.
180	sixty.	tjóotpo vörstomam.		shahúk xamxúk.
181	seventy.	vövako vörstomam.		shahúk paxká.
182	eighty.	kíkiko vörstomam.		shahúk supxúk.
183	ninety.	hómokto vörstomam.		shahúk xamxamúk.
184	one hundred.	ciento.		shahúk shahúk.
185	to eat.	ho.		max.
186	to drink.	í.		sirx.
187	to run.	mö^{r}.		^{a}skiyúɍ.
188	to dance.	kúihi.	votjúot^{a}.	imáx.
189	to sing.	njúi.	vonjíoi.	siyáx.
190	to sleep.	koi.		shemmáz.
191	to speak.	njo.		kvarkvár.
192	to see.	njúi.		wíx.

104
171

104
171

ENGLISH.	PAPAGO.	PIMA.	COCOPA.
193 to love.	tátjua.		
194 to kill.	m°á.		panák.
195 to sit.	táxiva.		apuvák.
196 to stand.	kúkiva.		apuá.
197 to go.	hih.		äx.
198 to come.	tjívia.	vohíh.	puyí.
199 to walk.	him.	vohíh.	apaaúx.
200 to work.	tjíkpö.		nawirár.
201 to steal.	uʼs.		valísh.
202 to lie.	íatok.		asunéy.
203 to give.	ma.		akíx.
204 to laugh.	xúxum.	vohö.	auséy.
205 to cry.	shósha.		uúkx.

APPENDIX II

RANCHERIAS, PRESENT AND PAST, OF THE PAPAGO

WITH INTERPRETATIONS OF THEIR NATIVE NAMES

I HAVE found it convenient to treat Arizona and Sonora separately. 103
The division into winter and summer rancherias has been maintained, although it is sometimes difficult to make a strict distinction. Instead 361
of winter rancheria I use only the word "rancheria," which comprises in the list, as indeed also in actuality, especially the winter habitations, including also at times permanent abodes.

The words "summer rancheria" designate the temporary habitations resorted to for the purpose of agriculture during the capricious showers of the summer. The Indian name for summer rancheria is *oóitak*, field for cultivation (*milpa*). The common Mexican expression for this kind of ranch, both in Sonora and southern Arizona, is *temporales*, which means ranches dependent for their water upon showers, a Spanish-Americanism, also used in Peru. (Bandelier.) *Rancho de temporal:* "ranch of rain-storm" is the name for a single ranch of this kind. "Winter rancheria," used in the above sense, is indicated by the letter *r*; "summer rancheria" by the letter *s*.

The four Pima rancherias of the Kohátk people are given at the end of the Arizona division. At the end of the Sonora division will be found the names of the principal camps of the sand Papagoes (*areneños*).

I.—ARIZONA

Áaivónam, Rancheria. "Both Sides Hat." (*Áai*, both sides; *vónam*, hat.) A mountain there looks like a hat, seen from either of two sides. South-west of Santa Rosa, *s*, in the Quijotoa Range, near Brownell.

Áktjin, Summer Rancheria. "Arroyo Mouth." (*Ák*^{t}, arroyo; *tjin*, mouth.) Two and one-half miles south of *Mâkumivboka*, *r*.

103 *Áktjin*, Rancheria. Three or four miles south of Maricopa railroad station.

361 *Ál̄itjukson*, Summer Rancheria. "Little Tucson" or, more correctly, "At the foot of (*shon* or *son*) small (*ál̄i*) black (*tjuk*) hill." Three miles from Artesa Range, on the north side of the road between Indian Oasis and Fresnal, *r.*

Ál̄oitak, Summer Rancheria. "Little Field." (*Ál̄i*, small, child; *óitak*, field, milpa.) Two miles south-east of Santa Rosa, *s.*

Ánekam, Summer Rancheria. "Where the *an* tree grows." (*An*, a slender tree, belonging to the *leguminosæ*. It has long leaves and pink flowers; may possibly be the desert willow.) Half of the people are from Tjúupo, *r.*, in the north-west.

Aquimuri, Rancheria. In Papago, *Akimuri* ("River," "Arroyo"). East of La Nariź, *r.*, Sonora, Mexico, three miles inside of the boundary line. Three or four families live here. There is a pond here.

Barajita, Rancheria. In Papago, *Tonóka* ("Knee"). Situated on the east side of the Ajo Range, five miles from the northern point, near the range.

Bates's Well, also called Growler Well or *El Veit*. In Papago, *Tjunikâatk* ("Where there is sahuaro fruit." *Tjûni*, sahuaro fruit). Twenty miles (seven leagues) north of Quitovaquita, *r.* Some of the former sand people live here. At present this is a mine and store, a few Americans residing. Good well.

"*Bitter Well*," Rancheria. In Papago *Sivvâxia*. (*Siv*, bitter; *vâxia*, well, waterhole, also spring.) Two miles east of the Vekol mine. Four to five families are said to live here.

Brownell, mine, store and post-office in the Quijotoa Range, eighty miles west of Tucson. (*See* Aaivónam.)

Cacate, Summer Rancheria. In Papago, *Káka* ("Clearing"). South-east of Gila Bend and west of Vekol mountains, about thirty-five miles west of *Kohâtk* (Pima). The population, according to information given me by Mr. T. Childs, of Batamote, is about two hundred, old and young, and is much mixed.

Cajilon, Rancheria. In Papago, *Áakta* ("Horn lying." *Aak*, horn). Fifteen miles south of the Vekol mine. This is an old rancheria, now probably abandoned, the former inhabitants living in Cacate, *r.*

Charco de la Piedra, Temporales. In Papago, *Hotashônevo* (Pond at the base of the rock." *Hóta*, stone, rock; *shon* or *son*, base, at the foot of; *vo*, pond). Twenty to twenty-five miles west of Pozo Blanco, *r*. Indians come here from Pozo Redondo, *r*. 103 361

Comobábi, Rancheria. In Papago, *Komváxia* ("Well where the *kom* tree grows." *Kom*, tree with red berries, called *cumaro* in Spanish; *váxia*, well (Spanish, *pozo*), or a hole dug in the sandy bed of an arroyo to reach water, also spring. If it were the tree's well, then it would be called *Komváxiak*). In the Comobabi mountains, seven miles distant from Kavváxiak.

Covered Well or *Pozo Tapado*, Rancheria. In Papago, *Maishᵗvaxia* (*maishᵗ*, to cover; *váxia*, well, waterhole, also spring). Fifteen miles west of Indian Oasis; one and one-half miles west of *Tjiuvak*, *r*. Inhabited by ten or twelve families.

Coyote, Rancheria. In Papago, *Pantak* ("Where the coyote is." *Pan*, coyote). In the northern part of Baboquivari Range. Situated two miles south of the road when at two miles' distance from Maishe's Well.

Cubo, Temporales. In Papago, *Kuvo* ("Big Pond." *Ku*, large, big; *vo*, pond). It is five miles south-east of Barajita, *r*., twenty to twenty-five miles south of Ajo copper mine, and about the same distance north-west of La Nariz, *r*., Sonora, Mexico. This is a large summer rancheria on the llano. Indians come here up to the number of one hundred and fifty souls from the rancherias Sauceda, Cacate, and Barajita, and from Gila Bend, to cultivate the soil.

El Mezquite, Rancheria. In Papago, *Vâtjeki* ("Small Waterhole." The hole was made and water gathered by digging with a basket). North of La Nariz, *r*., Sonora, Mexico, nine miles (three leagues) from the boundary line, in a basin near Mezquite Range. Very old, probably now abandoned.

Fresnal, Rancheria. It consists of three rancherias in the western and middle part of Baboquivari Range.

1. *Kóxikux* (*Kóxi*, mulberry tree; *kux*, where it stands) is the most northern.
2. *Tshtulīseik* ("Willow Forest." *Tshtulī*, willow; *seik*, forest). One mile south of Kóxikux.

103
361

3. *Pitôikam* ("Where there are ash trees." *Pítoi*, ash tree). Three miles south-west of *Tshíul̄iseik*. This latter rancheria is the largest of them. Probably there are no less than five hundred souls in the three rancherias. Nos. 1 and 2 are situated one and one-half miles in among the foot-hills, about four thousand two hundred feet above sea level; No. 3 is at the beginning of the llano.

Gtikivok, Summer Rancheria. "Where the plough was lying." (*Gtik* (also *ktik*), plough; *vok*, lying.) South of Indian Oasis.

Horseshoe, Placer gold mine, store, and post-office. In Papago, *Komaktjtvurt* ("Gray Soil." *Kómak*, gray; *tjtvurt*, soil. The name alludes to the presence of *caliche*). In the Quijotoa Range. The gold digging itself was formerly alluded to as *ôl̄ak*, "Where there is gold" (*oro*). At present only the Indians occasionally dig for gold.

Indian Oasis, store and post-office, seventy miles west south-west of Tucson. (*See Kómoktetuvôvosit.*)

James' Ranch, Rancheria. In Papago, *Vavstjûutak* ("Green Rock." *Vav*, rock; *stjûutak*, green). In the Artesa mountains, a couple of miles south of Indian Oasis.

Jiquibo, also called *Pirigua*, Summer Rancheria. "Where there is a rough mountain." (In Papago, *Hîkibon* or *Hikjovan*. *Hik*, rough, ridged. Hair that has been cut short is also said to be *hik*.) Situated on a llano in a kind of basin, north-east of Ajo copper mine. There are several waterholes or wells here, and the Indians are said to use the water for irrigating purposes.

Kâitjimök, Summer Rancheria. "Burnt Sahuaro Seed." (*Kaitj*, seed of the sahuaro fruit; *mök*, burn.) Another name for Santa Rosa, *s*.

Kakota, Rancheria. "Crooked." It is on the south-west side of the Quijotoa Range, eight miles south of Horseshoe. Indians settled here, falling heir to a well that some Mexicans abandoned when the placer mining of the place gave out.

Kôvol̄ik, Summer Rancheria. "Hill." Six or seven miles south of *Kuôitak*.

Kavuâxriak, Rancheria. "Badger's Well." (*Kav*, badger; *vâxia*. *See under* Comobabi.) In the Comobabi mountains, about six miles north-east of Noria, *r*.

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

103
361

Kŏl̄ipatvóoka, Summer Rancheria. "Dead Old Man's Pond." (*Kŏl̄i*, old man; *pat*, dead, something of the past; *vo*, pond.) Fifteen miles north-east of Horseshoe.

Kômal̄ik, Summer Rancheria. "Mountain Crest." Name is derived from a low ridge north of the place. Ten miles south-west of Fresnal, *r*. It has a pond.

Kômoktetuvávosit, Rancheria. "Where the turtle was caught." (*Kômoktet*, turtle.) It is a mile from Indian Oasis and was established five years ago.

Kukômal̄ik, Rancheria. "Big mountain crest." (*Ku*, large, big; *kômal̄ik*, mountain crest.) Fourteen miles north of *Ânekam*. It is twenty-five to thirty miles west to south of Silver Bell. The village is inhabited all the year on account of a well left by an American. Its fields are insignificant. The inhabitants go to *Ânekam* for religious ceremonies.

Kuóitak, Summer Rancheria. "Large Fields." (*Ku*, large; *óitak*, field, milpa.) Thirteen miles south of the "Pumphouse."

Kutjúupo, Rancheria. "Big waterhole in the rock." (*Ku*, big; *tjúupo*, rocky cavity containing water, natural water tank; Spanish, *tinaja*.) In the western foot-hills of Baboquivari Range, eight to ten miles north of Fresnal, *r*.

Kvĭtatk, Summer Rancheria. "Mezquite Root." (*Kvi*, mezquite; *tatk*, root.) Thirteen miles north-west of Indian Oasis; one-half mile from the "Pumphouse."

Kvĭvo, Rancheria. "Below," "Low Down." One and one-half miles north-east of Santa Rosa, *s*.

La Lesna, Rancheria. In Papago, *Shuunâkia* ("Hanging Wolf." *Shûu*, wolf; *nâkia*, hanging). Three miles from the boundary line, eleven miles (four leagues) north-west of Banori, *r*., Sonora, Mexico.

La Moralita, Rancheria. Papago name unknown. It is ten or twelve miles north-east of La Nariz, *r*., in Sonora, Mexico.

La Quituni, Summer Rancheria. In Papago, *Âktjin* ("Arroyo's Mouth." *Ak*, arroyo; *tjin*, mouth). North-west of La Nariz, *r*., Sonora, Mexico, three miles from the boundary line. It used to be visited by Indians from Sonoita, but has been abandoned over ten years.

103 361 *Los Camotes*, Rancheria. In Papago, *Shâatkam* (Name of an edible root). Situated three miles west of the Mezquite Range, near the boundary line, northward of La Nariz, *r.*, Sonora, Mexico. Two families live here, who go to Sonoita when the water gives out.

Makumivóoka, Rancheria. "Caterpillar Pond." (*Mâkum*, a yellow, black-striped caterpillar, boiled and eaten by the Papago. It appears in August. *Vo*, pond.) It is nine miles south-east of *Kvívo*, *r.* (near Santa Rosa, *s.*)

Milpitas, Summer Rancheria. In Papago, *Kókul̄i* ("Corral," "Enclosure"). Twelve miles south-east of Pozos Muchos, *r.* (northern part of the Papagueria).

Nóipokam, Rancheria. The name is of Spanish origin, meaning unknown. It is north-west of Horseshoe, in the Quijotoa Range, two miles from Brownell.

Noria, Rancheria. In Papago, *Nóol̄ik* (Corruption of the Mexican name which means "spring"). It used to be called in Papago, *Vípenak* ("Where *vípenoi*, a small cactus, is growing"). It is a short distance west north-west of Indian Oasis. This is an old village and it has more people now than before.

Notovaxia, Rancheria. "Well where the sacaton grass grows." (*Not*, sacaton grass; *váxia*, well, waterhole, also spring.) In the northern part of the Comobabi mountains.

Óotovaxia, Rancheria. "Sand Well." (*Óot*, sand; *váxia*, well.) In the northern part of the Comobabi mountains.

Pelon or *Rancheria del Pelon*, Rancheria. Also called "Lower Village." In Papago, *Kvívo* ("Below," "Low Down," namely, on the river). It is in Gila Bend Papago Reservation, ten miles from Gila Bend railroad station.

Pirigua, Summer Rancheria. (*See* Jiquibo.)

Pisinemo, Summer Rancheria. In Papago, *Piṡinemoi* ("Bear's Head." *Piṡin*, brown bear; *mo*, head.) It is fifteen miles north-west of the south end of the Quijotoa Range.

Pozo Blanco, Rancheria. In Papago, *Komváxia* ("Well where the *kom* tree (Spanish, *comaru*) grows"; *váxia*, well, waterhole, also spring). Near the Quijotoa range, eight miles south-west of Brownell; four or five miles west of "Covered Well." It is forty miles from Pozo Redondo, *r.* Four or five families live here.

Pozo Colorado, Rancheria. In Papago, *Vŏkivăxia* ("Red Well." 103 *Vŏk,* red (usually *sŏvŏk* or *suvăk*); *văxia,* well, waterhole, also 361 spring). Near Pozos Muchos, *r.* It is a very old rancheria, inhabited by two to four families.

Pozo de Federico, Rancheria. (*See* Wall's Well.)

Pozo Redondo, Rancheria. In Papago, *Sikorttjŭupo* ("Round Tank." *Sĭkort* (*sĭkul*), round; *tjŭupo,* rocky cavity with water; in Spanish, *tinaja*). It is about twelve miles east of Ajo copper mine, on the east side of the Pozo Redondo Range. These Indians have fields in Cubo, *s.*

Pozo Tapado, Rancheria. (*See* Covered Well.)

"*Pumphouse,*" Rancheria. About twenty years ago a mining company made a deep well and a pump with a large chimney, eight miles south-east of Horseshoe, in the Quijotoa Range. The well was later abandoned. Some Indians established themselves here, and this small rancheria is now usually called *Văinomkux* ("Iron prominence." *Văinom,* iron; *kux,* standing, prominent).

Pozos Muchos, Rancheria. In Papago, *Moivăxia* ("Many Wells." *Mŏi,* many; *văxia,* well, waterhole, also spring). South southeast of Gila Bend, eight miles easterly of Sauceda, *r.* Eight to ten families live here. They have several waterholes or wells and are said to irrigate with this water.

Quitovaquita, Rancheria. In Papago, *Al̄ivaipia* ("Small Springs." *Al̄i,* small, child; *vaipia* is plural of *văxia,* well, waterhole, spring). South of Ajo copper mine, just within United States boundary. This is a locality with many small springs of good water. It is permanently occupied by one or two families. Some agriculture.

Rincon, Rancheria. Two miles north of *Sepănovak, r.*

Rincon, Rancheria. In north-eastern part of Baboquivari Range. A large rancheria, belonging to a civilized Papago. According to my interpreter, Pablo, there are no other rancherias on the eastern side of Baboquivari Range.

San Lorenzo, Rancheria. In Papago, *Sil̄inakik* ("Hanging Saddle." *Sil̄i,* saddle, a corruption of the Spanish *silla*). Twelve miles east south-east of *Makumivŏoka.*

San Miguel, Summer Rancheria. Five miles south from *Tjŭul̄ik, s.*; ten miles north of Monument 143 on the boundary line. Of recent date.

103 361 *San Pedro*, Rancheria. In Papago, *Vtopol̄i* (a kind of tobacco). This is a new rancheria in the Roskruge Range, seventeen miles' distance north from Hayes's Well, thirty-six miles from *Makumivŏoka*, *r*.

Santa Rosa, Summer Rancheria. In Papago, *Kuătshi* ("Big Peak." *Ku*, large; *ătshi*, narrow mountain). The name is derived from a mountain near by, to the west. In Santa Rosa Valley. This is the largest summer rancheria, and is probably also to a certain extent inhabited in the winter. The fields extend nearly two miles in either direction.

San Xavier del Bac. In Papago, *Văk*, which means "where the river reappears in the sand," a "sink" of the river.

Sauceda, Rancheria. In Papago, according to information from Mr. F. Wall, called *Tshiul̄ikami* ("Where willow grows." *Tshtul̄i*, willow). South of Gila Bend railroad station and seventeen miles east north-east of Batamote ranch. This is the main rancheria of the north-western part of the Papagueria. I am informed by reliable authority that there are fifty to seventy houses here. In 1910, on account of want of water for the cattle, only thirty to forty individuals lived here.

Sepănovak, Rancheria. "The smell of the coyote." (*Pan*, coyote.) Small rancheria in a narrow valley in the middle part of the Baboquivari Range.

Stil̄imŏk, also called "Upper Village," Rancheria. "Burnt Saddle" (*Stil̄i* (Spanish, *silla*), saddle; *mŏk*, burn). In Gila Bend Papago Reservation, about eighteen miles north of Gila Bend. In 1910 it had fourteen families, immigrated less than twenty years ago, from Sauceda, *r*.

Sikulhĭmatk, Summer Rancheria. "Water going around." (*Sikul*, round.) Five miles north of the "Pumphouse," east of Horseshoe. The water-shed is here, between water flowing into the Gila River and to the Altar River.

Súsuta, Rancheria. In Papago, *Shŏsetak* ("Where water gathers"; *shŏtak*, water.) Three leagues north-east of La Nariz, *r*., Sonora, Mexico. In the winter five or six families live here. The water lasts sometimes for a year.

Tecolote, Summer Rancheria. In Papago, *Tjúkutko* ("Owl's Cry." *Tjúkut*, owl; *ko*, cry). An old rancheria fifteen miles west south-west of Indian Oasis.

Temporales, without name yet. Nineteen miles east of *Makumivóoka*, *r.*

Tesota, also called "Second Village," Rancheria. In Papago, *Úupat-oitak* ("Cat-claw Field." *Úupat*, the tree called cat-claw, in Spanish, *tesota; óitak*, field for planting, *milpa*). In the Gila Bend Papago Reservation, five and a half miles east of Pelon, *r.* It consisted in 1910 of eight families, immigrated from Pozos Muchos, *r.*

Tjeavolītak, Summer Rancheria. "Where the barrel cactus is." (*Tjeávolī*, barrel cactus; in Spánish, *bisnaga.*) Two miles from an abandoned ranch called Fresnal, between Maishe's Well and Indian Oasis.

Tjíuvak, Rancheria. "Where something rotted." Five miles north of Horseshoe.

Tjotomvaxiaka, Rancheria. "Bear's Well." (*Tjótom*, bear; *váxia*, well, waterhole, also spring.) In the Baboquivari Range, about eight miles south of Fresnal, *r.*

Tjúulīk, Summer Rancheria. "Corner." On the plains, south south-west of Fresnal, *r.*, six miles south of *Kómalīk*, *s.*

Tjúupo, Rancheria. "Rock cavity with water." Name alludes to some cavity in the rock containing water, a natural tank; Spanish, *tinaja.* In the Quijotoa Range, perhaps ten miles north of Brownell.

Tóapit or **Tóapit*, Summer Rancheria. "White Clay." (*Tóa* or **Tóa*, white; *pit*, clay.) Twelve miles north of Jiquibo, *s.* Seven or eight families come here.

Topahua, Summer Rancheria. In Papago, *Kóksumök* ("Burnt Dog." *Kóks*, dog; *mök*, burn). Seven miles south of Indian Oasis.

Tóobitk, Summer Rancheria. "Crooked." Ten miles from Cacate, *s.*

Tshíovo, Summer Rancheria. "Long Pond." (*Tshi*, long; *vo*, pond.) Eight miles south-west of the south end of Quijotoa Range.

Tucson City. Originally a rancheria. In Papago, **Tjukson* ("At the foot of the black hill." **Tjuk*, black; *son* or *shon*, at the foot of). The name alludes to the hill nearest to the Santa Cruz River, and near that on which the Desert Botanical Laboratory is.

7: Lumholtz N-5 (1909-1910)1912

NU28 Papago NU28

Pima

103 *Vâmul̄i*, Summer Rancheria. "Basin" (low place where water gathers). It is near *Gitkivok*, *r*.

361 *Vôvemo*, Rancheria. In Papago, "Mountain with Head." (*Vav*, mountain; *mo*, head.) The name alludes to a low ridge on top of which is a rock. Ten or twelve miles (four leagues) south of Indian Oasis. Many Indians here.

Vôvkux, Rancheria. "Projecting Rock." (*Vav*, mountain, rock; *kux*, standing, prominent.) In the northern part of the Baboquivari range; three miles from Hayes's Well.

Vopel̄ohavôoka, Summer Rancheria. "Burro Pond." (*Vôpel̄o*, burro, donkey; *vo*, pond.) *Ha* has no special meaning; usually it means "there" or "what." Eight or nine miles south-west of Topahua, *s*.

Wall's Well or *Pozo de Federico*, Rancheria. In Papago, *Kôokatsh* ("mountain crest"). Sixteen miles east of Bates's Well, right at the northern point of Sierra del Ajo. There used to be some mining done here, which has been abandoned, a few Indians from Barajita afterward settling there and taking possession of the wells. Information from Mr. Frederick Wall, who discovered and named the Growler mine.

PIMA RANCHERIAS

South of Casa Grande railroad station, on the Southern Pacific, are found the following four Pima Rancherias, inhabited by the so-called Kohátk people.

Kohátk, Pima Rancheria. "Depression." (Literally: "Where a hollow has been made" through water or other agency.) It is situated due east of the Vekol mine, and nine miles north-west of *Kukômalik*, a Papago rancheria. Elevation, 2,500 feet.

Tatamûmerikut, Pima Rancheria. "Where the foot had run." (*Tat*, foot; *mûmeri*, run; *kut*, where.) It is four miles north of the Jack Rabbit mine, is very old, and foot-racing is said to have started here. Foot-races, accompanied by betting, are still practised, two or four men running together at one time. They have also races called *wûtshuta*, where a ball is tossed along, similar to those in use among the Tarahumares of Chihuahua, Mexico.

Pima

Tshŭhutsho or *Tjŭitjo*, Pima Rancheria. "Caves." Name alludes to some natural cavities in the ground (*tshŭhu*, cave) nine miles from Casa Grande railroad station and from *Vaivavo*, *r.* 103 361

Vaivavo, Pima Rancheria. "Cocklebur Pond." (*Văiva*, cocklebur; *vo*, pond.) Twelve miles north of *Kohătk*, *r.*

II.—SONORA, MEXICO

DISTRICT OF ALTAR

Agua Prieta, Rancheria. (*See* Pozo Prieto.)

Akimuri, Rancheria. "The River." The present site of the Indian settlement of Sonoita, the Mexicans having occupied the lands where the Indians originally lived, and where the small Sonoita River sallies forth. It is about one mile down the river from the Mexican settlement and goes under the name of *El Pueblo*. Considerable wheat is cultivated by irrigating with water from the river, and the Indians, the number of whom varies according to season but generally may be seventy to eighty or more, are well-to-do. *See* Sonoita.

Akitaivuni, Summer Rancheria. "Where the river begins." (*Ak'*, river, arroyo; *vun*, begin.) Situated six miles east of Sonoita, where there were several swamps before the river, some years ago, broke through the gravelly accumulations. Abandoned.

Alamito, Mexican ranch, formerly Papago rancheria. In Papago, *Văipia* ("Waterholes," "Springs"). Two miles north of the town of Trincheras. There is an old church here. Miguel, an old Indian of Quitovac, saw Indians living here seventy years ago.

Alamo Muerto, Mexican ranches, formerly Papago rancheria. In Papago, *Ăupa* ("Cottonwood Tree." Plural is *aŭpa*). Eight leagues west of Caborca and four leagues north-east of Pozo Moreneño, it is situated on the Altar River, on the llano; the ranches are about north of the Sierra del Alamo, which is near by, and three leagues west of Bisani.

Altar. Town on the Altar River, formerly rancheria. In Papago, *Văvuk* ("Where there is a mountain." *Vav*, mountain, or rocky place). Three families live in the outskirts, making a living by working for Mexicans.

103 *Arivaipa,* Mexican ranch, formerly Papago rancheria. In Papago, 361 *Ālivaipia* ("Small Springs" or "Small Waterholes." *Āli,* small, child; *vâipia* is plural of *vâxia,* well, waterhole, spring). Eight miles south-east of Garambullo ranch. The Papagoes used to have fields here. The old men died and the young men went to Arizona.

Arivaipa. Papago camp, abandoned; formerly of importance. It is about thirty-five miles east of Puerto de Libertad, fifteen miles [131] from the coast. This marks the southern limit of the Papago tribes' extension. A reliable old Indian, Miguel of Quitovac, knows this place, of which Mr. M. Taylor, formerly superintendent of the Yaqui mine, gave me the following description: "A large mezquite tree is growing on the south side of the arroyo. Here the Papagoes from Pozos de San Ignacio used to camp before being dispossessed by the *rurales.* East of this tree, on the bank of the arroyo, is another mezquite overhanging the arroyo; one of the limbs has been cut off. Directly under that cut one should dig for water which will be found eight to ten feet deep in the sand; [312] it stands in caliche, into which a two-foot deep hole has been made." According to the same informant, there is a Seri well, "Coyote," on the same arroyo, six miles from the coast. The main camp of the Seri Indians, perhaps now numbering two hundred in all, is said to be at no great distance from there.

Arivaipa. This name also appears on the upper Gila River, near the San Carlos Reservation. Formerly the Apaches used to be there.

Atil, Mexican Pueblo, formerly rancheria. In Papago, *Átshi* ("Narrow Mountain"). Six leagues from pueblo Oquitoa on the Altar River.

Bajio de Evaristo, Summer Rancheria. In Papago, *Htashpik* ("Buried"). According to tradition, a beautiful Papago woman was buried here. It is situated in the fertile, long, broad valley leading west to Sonoita. About fifteen families live here.

Banori, Rancheria. In Papago, *Vânol̄ik* ("Curve"). Seven miles east of Mexican rancheria Bajio del Alcalde, which hauls water from there. It is not far from the other Banori, both of them located near the boundary.

Banori, Mexican ranch, formerly Papago rancheria. Two miles west of Cobota. It is probably the ranch which formerly was called Pozo de Luis. Two Papago families keep animals there by permission of the Mexican owner, J. Celaya.

Bisani, Hacienda. Formerly rancheria. In Papago, *Vtisin* ("Small, deep arroyo"). Sixteen miles west south-west of Caborca. The extensive and fertile lands have been made into a Mexican hacienda for wheat raising. Fourteen or fifteen families live here who are dependent on the hacienda for work. Ruins of an old Jesuit church are existent.

Caborca. Town on the Altar River, formerly rancheria. In Papago, *Kávortk* ("Rounded Hill"). Seven families live in the outskirts, two of them possessing and cultivating *milpas* (garden fields), the rest being laborers for Mexicans.

Cacate, Rancheria. In Papago, *Káka* ("Clearing"). On the south-western side of Sierra de Santa Rosa (east of Sonoita). Abandoned fifteen years ago.

Carricito, Rancheria. In Papago, *Vapktjuutshk* ("Where the reeds stand." *Vapk*, reed; *tjúutshk*, upright, standing). Near Rancho de Macias, toward the boundary line. Nine families; the men seek work in the Campana gold mine.

Charco de Chavarria, Summer Rancheria. In Papago, *Kávoit* ("Badger's Field." *Kav*, badger; *óitak*, field, milpa). Four leagues east of Sonoita. Papagoes used to live here formerly, and in the last four years a couple of families are again occupying the country.

Charco de la Mujer, Rancheria. In Papago, *Ófviavóoka* ("Woman's Pond." *Ófvi*, woman; *vo*, pond). Two leagues north north-east of La Nariz, *r*. People from La Nariz visit it for the sake of obtaining water for the cattle. Otherwise it appears abandoned.

Chujubabi, Rancheria. In Papago, *Tshuhuvaxia* ("Cave Well." *Tshúhu*, cave; *váxia*, well, waterhole, also spring). Four leagues south-east of Quitovac. It is inhabited by three or four families.

Cóbota, Rancheria. In Papago, *Kóvortk* ("Hollow in the ground"). It is on the west side of the peak of Cóbota, about eight miles south-east of Cerro de la Lesna, and four miles south of the boundary. Ten families live here. When the water is consumed they go to Tecolote, *s.*, Arizona, where they have fields.

Comobabi, Rancheria. For interpretation *see* Comobabi, Arizona. It is six leagues east south-east of Cobota. More than ten families live here.

103
361

Coyote, Summer Rancheria. In Papago, *Panvaxia* ("Coyote Well." *Pan*, coyote; *vâxia*, well, waterhole, also spring). A small rancheria, north of Tajitos mine (about twenty-five miles north of Caborca). Water is procured by digging holes in the river bed.

Cubabi, Rancheria. In Papago, *Kovaxia* ("Hidden Well." *Ko*, cover; *vâxia*, well, waterhole, also spring). Near the Sierra de Cobota, four leagues north of Plomo, mining town. Eight to ten families.

Cubo, Mexican ranches, formerly Papago rancheria. In Papago, *Kuvo* ("Big Pond." *Ku*, big; *vo*, pond). Thirty miles north of Caborca.

Cúmaro, Rancheria. In Papago, probably, *Komvaxia* (*Kom*, tree with red berries, called by the Mexicans *cumaro; vâxia*, well, waterhole, also spring). About eight leagues west of Sasabe custom-house and two leagues from the boundary. Four or five families live here.

El Durasno, Rancheria, abandoned some time ago. Situated north of the mountain of the same name (north of Carricito, *r.*), at the foot of it. Water was brought from some pools in the mountain. Sons of those who lived there are still alive.

El Picu, Rancheria. In Papago, *Óokobonjik*^{1} ("Tears." *Óok*, tears; *bónjik*^{1} is euphonistic, and does not mean anything by itself). Water comes up very sparingly, hence the name. It is about forty-five miles south south-west of Caborca and eight leagues west of Pozos de San Ignacio. Has been uninhabited for more than thirty years, though some Indians from Pozos de San Ignacio had a ranch here.

El Tren. Abandoned mining village, formerly Papago rancheria, called, in Papago, *Líima* ("Whetting Stone." In another version the name *Lin* is a corruption of Trinidad and means nothing). Near Zoñi. Placer mines were formerly worked here.

Kíkimikux, Summer Rancheria. "House Standing." (*Ki*, house; *kux*, standing, prominent.) It is less than one league east of Cúmaro, *r.*, There are ten families living here.

La Espuma, Rancheria. In Papago, *Tótshaki* ("Foam." Water makes foam in the hole when being excavated in the sand. Good water to drink). In the Sierra de la Espuma, south of La Nariz. It is inhabited only in the winter.

La Nariz, Rancheria. In Papago, *Táak* ("Nose"). It is situated at the foot of the south-eastern promontory of the Sierra de la Nariz. Its profile resembles a nose, hence its name. In the winter usually fifteen families live here. At the time of my visit in November there were five families; some were absent in Represa de Enrique, others were working for the Americans (agriculture) in Arizona. There is a dam here made by Mexicans, American citizens, who are trying to drive the Indians away.

Lesna Vieja, Rancheria. In Papago, *Kuktjuitakkux* ("Palo Verde Standing." *Kuktjúitak*, palo verde; *kux*, standing, prominent). It is about three leagues north-east of Bajio de Evaristo, in the north-western part of the District of Altar, at the edge of the basin. Abandoned about twelve years ago. Ruins of huts and a broken dam can still be seen.

Llano de Juan Ramon, Summer Rancheria. In Papago, *Kókaul̄ivo* (*Kókaul̄i*, a bush called in Spanish *garambullo;* vo, pond. "Pond among garambullo Bushes"). It is one league south-east of Garambullo ranch. Has been abandoned probably fifty years.

Ónak, Rancheria. Pronounced *Sónak* in Bisani ("Where there is salt." *On*, salt). Twelve leagues south-west of Caborca; three leagues west of Pozo Prieto (abandoned *r.*). Abandoned in the present generation. Mexicans had here formerly gold and silver mining by *arrastras.*

Oquitoa, Mexican Pueblo, formerly rancheria. In Papago, *Hókito* ("Boundary Limit"). Two leagues north-east of Altar, on the Altar River.

Pitiquito, Town on the Altar River, formerly a rancheria. In Papago, *Ptitskin*, "Gone to Nothing." The name alludes to the annihilation of both parties to a combat which is said to have taken place on a mountain near the present town. On account of the permanency of water in this part of the river and the fertility of the plain, this locality is to-day of agricultural importance. There are four Papago families here, who work for the Mexicans.

Pozo Grande, Rancheria. In Papago, *Kuvaxia* ("Big Well." *Ku*, big, large; *váxia*, well, waterhole, spring). It is near the south-western point of Cerro del Viejo, ten leagues south of Caborca. Has been uninhabited for fifty to sixty years.

103 *Pozo Moreneño*, Rancheria, abandoned. Near the southern part of Sierra del Alamo. Twelve leagues south-west of Caborca, three
361 leagues from Pozo Prieto (abandoned *r.*).

Pozo Prieto or *Agua Prieta*, Rancheria. In Papago, *°Tjukshootak* ("Black Water." *°Tjuk*, black; *shóotak*, water). Near the foothills of Sierra del Viejo, two leagues from Pozo Grande. Papagoes from Bisani visit it every year, but it is more or less abandoned.

Pozo Verde, Rancheria. In Papago, *Tjuitakvaxia* ("Green Well." *Tjŭitak*, green (also *stjŭitak*); *váxia*, well, waterhole, spring). The name is derived from a fine spring at the foot of the Baboquivari Range, about a mile south of the boundary line, and a few miles west of Sasabe custom-house. The largest rancheria in Sonora. Twenty-five to thirty families are said to live here. There is a general here in charge of all the Papagoes of Sonora. The place is of importance in the mythology of the tribe.

Pozos de San Ignacio, Rancheria. In Papago, *Tootavaipia* ("White Waterholes." *Tóa* or *°Tóa*, white; *váipia*, plural of *váxia*, waterhole, spring). The earth is white here, probably on account of the presence of caliche. It is about twenty leagues south of Caborca. This rancheria was given up in 1907 after a brave fight with the *rurales* (Mexican police), of whom eighteen were killed, nearly all the Indians escaping with their belongings into Arizona. Many families were living here, sixteen persons being full-grown men.

Quelèle Quemado, Rancheria. In Papago, *Kusitmohitatsh* ("Burnt Carrion Hawk." *Kúsit*, carrion hawk, with a yellowish throat). One to two leagues north of Leana Vieja, *r.* Abandoned long ago.

Quitovac, Rancheria. In Papago, *Vapk* or *Váketa*, "Reeds" (*Vapk* is the name for reeds; they here grow in a swamp, produced by flow from the springs). An important place in the life of the tribe. Several fine springs at one locality furnish abundant water. There was once mining activity here. At present only the Indians occasionally "dry wash" the placer mines. Two or three Mexican families live here and there is a store. The Indians are fairly well-to-do, and in the winter as many as fifteen families may be found at Quitovac.

Represa de Enrique, Summer Rancheria. In Papago, *Njŭoport* 103 ("Nighthawk"). It is situated in the fertile, long, broad valley leading west to Sonoita. Seven families have cattle here and own 361 a large pond. They come from La Espuma, *r.*

San Pedro, Rancheria. In Papago, *Somŭok* ("Peak"). One league south-west of Coyote, *r.* Four families live here.

Santo Domingo, Hacienda, formerly Papago rancheria. In Papago, *Tjŭtshpa*, "Pounding Stone." (*Tjŭtshpa*, a rude stone vessel in [412] which mesquite beans, mescal, etc., are pounded with a stone pestle; sometimes a hollow is made in the rock for the same purpose.) Seven miles west of Sonoita on the Sonoita River. A large tract of land was cultivated here by Mexicans, through irrigation from Sonoita River, but it has been abandoned for several years. No Indians live here any more.

Saric, Mexican Pueblo, formerly rancheria. In Papago, *Shăarik* ("Pass." Spanish, *puerta*). Five leagues from Pueblo Tubutama on the Altar River, near the boundary of the District of Magdalena. Some Papagoes live here.

Sasabe, Mexican custom-house, formerly a rancheria. In Papago, *Shăshovuk* ("Echo").

Sonoita, Rancheria. In Papago, *Kavortkson* ("At the foot of the rounded hill." *Kăvortk*, rounded hill; *son*, in Sonoita pronounced *shon*, at the foot of, base). Sometimes the place is designated in an abbreviated manner as *shon* only, from which possibly the Spanish name Sonoita is derived. The oasis was originally called Sonoitag or Sonoidac. In the reprint of Ortega's "Apostolicas Afanes," Mexico, 1887, the name Sonoidag is attributed to the Indians. Speaking of Father Kino's journey in 1699, the narrator says: "They gave the name San Marcelo to a place which the natives call Sonoidag, a very favorable locality on account of its lands, pasture, and abundant water" (libro 2, cap. 7, p. 340). The rancheria used to be near the beginning of the river, but the Indians have gradually been driven by the Mexicans lower down, occupying now a site one mile from the Mexican village of Sonoita. (*See* Akimuri.)

Sunăk, Summer Rancheria. "Red." (*See under* "Camps of the Sand Papagoes or Areneños.")

103 361 *Tubutama*, Mexican Pueblo, formerly rancheria. In Papago, *Tjŭvutum* ("High Up"). Three leagues from Mexican pueblo Atil on the Altar River.

Zoñi, Mexican ranch, formerly Papago rancheria. In Papago, *Shônekam* ("Spring that never dries up"). Six miles from Rancho de Macias in north-western part of the District of Altar. The Campana mine pumps water from here. Formerly there was placer mining here.

CAMPS OF THE SAND PAPAGOES OR ARENEÑOS

These Papagoes formerly occupied the sandy country along the upper part of the Gulf of California, reaching from the lower Colorado River eastward as far as Santo Domingo, near Sonoita, and northward to Gila Range and Cabeza Prieta Range. Their head-quarters was the Pinacate region.

Agua Dulce, Camp. In Papago, *Ikuskaatsh* (*Íkus*, piece of clothing; Spanish, *trapo*). West south-west of Quitovaquita, at a place where the river water appears again. A ranch was established here by a Mexican, but was later abandoned. Both here and at Agua Salada, three miles lower down, the Papagoes used to come in great numbers to hunt or to gather sahuaro, but no agriculture was ever undertaken.

Agua Salada or *La Salada*, Camp. In Papago, *Onokshôotak* ("Salt Water." *Ono*, salt; *shôotak*, water). Name of a certain part of the Sonoita River bed, south south-west of Quitovaquita. One and one-half miles further down is Los Pozitos, the name being derived from small wells that travellers make in the sand of the river-bed, to get water. Drinkable water may be procured in the same way at Agua Salada.

Hôtunikat, Camp. "Sunset," "West." South of Pinacate, four miles west of Tinaja de los Chivos. This was the head-quarters of the sand people and, to employ a Mexican usage, may be termed a rancheria. Drinking water was brought from Los Chivos. An annual festival—dancing and singing—was given to procure rain and "make the grass grow." *See page* 228.

La Choya, Camp. In Papago, *Hanammĕtjurtivaxia* (*Hánam*, choya, a very spiny cactus of the *opuntia* genus which grows in abundance here; *mĕtjurti* was interpreted to me as indicating "in," "near"; *váxia*, well, waterhole, spring). South of Pinacate. This camp is a few yards from the beach, and fresh water is found in a hole that has been dug ten feet deep. 103 361

Laguna Prieta, Camp. In Papago, *Vapk* ("Reeds"). A salt lagoon west of Gila Range (Sierra de las Tinajas Altas). Abundance of fresh water found among the bulrushes on the marshy shore. 317 103 361

La Soda, Camp. In Papago, *Tjútjaka*. South of Pinacate. This is a deposit of soda, ten miles east of Salina del Pinacate, and three miles from the sea. Fresh water is found by digging on the shore, as well as three miles west at a locality called Tule.

Poso del Caballo, Camp. In Papa[illegible] *Hiatitváxia* ("Well of the Sand Dunes." *Hía*, *Híati*, or *Híatit*, sand dunes, sand; *váxia*, well, a hole dug to reach water, also spring). This locality is about halfway between Salina del Pinacate and Salina Grande. It is a difficult place to find, near some high sand dunes west of Estero del Tule.

Salina del Pinacate, Camp. In Papago, *Óno* or *On* ("Salt"). Also called *Kavonoka* ("Badger's Salt." *Kav*, badger). A small [illegible]posit of salt in a slough three miles from the coast, south-west of the Pinacate region. This is the principal place from which the Papagoes gather salt. Fresh water is found by digging on the shore.

Salina Grande, Camp. In Papago, *Murtegshóotak* ("Running Water." *Múrteg*, running; *shóotak*, water). A large salt deposit forty miles east of the mouth of Colorado River, three miles from the coast. On the flat, north-western shore are sixteen fresh-water springs.

Sierra Blanca, Camps. In Papago, *Tóakomalik* ("White Mountain." *Tóa* or **Tóa*, white; *kómalik*, mountain crest). A sierra south of Pinacate. A small water tank lasting three months is found near the north-east point on the east side, but the Indians had several camps, especially on the south side of the range. 103 361

Sierra del Rosario, Camps. In Papago, *Hiatikomalik* ("Mountain Crest in the Sand." *Híati* (also *Hía* or *Híatit*), sand; *kómalik*, mountain crest). A mountain range among the sand dunes

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28
Sand Papago

103
361

south of Gila Range (Sierra de las Tinajas Altas). Though far from water, there are many evidences of camping places here.

Suvûk, Summer Rancheria. "Red." A hill near by has the same name. In the Pinacate region, five miles south-east of Tinajas de Emilia. There was some agriculture here, among the lava ridges. People came from Batamote to cultivate brown beans, white beans (*tépari*), maize, and squashes on a small scale. It is doubtful whether these can be considered sand people, probably not. Nearer the coast no attempt at agriculture was ever made. There is a tinaja near by called *tjûumikux* ("Where the pitahaya stands." *Tjûmi*, a kind of pitahaya cactus; *kux*, standing, prominent).

103
361
773

Tinajas Altas, Camp. In Papago, *Ôovak* ("Where arrows were shot." *Óo*, arrow). The name originates from a legend about two Indians who shot arrows from either side of the ridge. One did shoot across. Where the arrows of the other fell short the pools appeared. These well-known tinajas, eight in number, are in the southern part of the Gila Range (Sierra de las Tinajas Altas) that stretches from the neighborhood of Yuma south-east. It is on the old track from Caborca, over Sonoita, to Yuma.

103
361

Tinaja de los Chivos, Camp. In Papago, *Hötunikat* ("Sunset," "West"). The Spanish name is the vulgar expression *chivos* (goats) for mountain-sheep. In the south-western part of Pinacaté. An important camp. There is a track leading from here to the former main camp of the sand people, called by the same name, *Hötunikat*. Another track leads over the mountains to Tinajas de Emilia.

Tinaja de los Papagos, Camp. In Papago, *Hitjuupo* ("Urine Pool." *Hi*, urine; *tjûupo*, natural tank, water in rock cavity; Spanish, *tinaja*). The name alludes to imaginary spoliation by the departed. In the north-western part of Pinacate. In years of ordinary rainfall the three tinajas here furnish water all the year round. An important camp.

Tinaja del Cuervo, Camp. In Papago, *Havanikosh* ("Raven's Nest." *Hóvani*, Raven (*corvus cryptoleucus*); *kosh*, nest). In the south-western part of Pinacate. This is a regular camp of the salt expeditions. Water can nearly always be depended upon here.

103
361

Tinajas de Emilia. In Papago, *Moitjŭtjupo* ("Many Pools." *Moi*, many; *tjŭupo*, water in natural cavity of the rock, natural tank; in Spanish, *tinaja*). An important camp on the slope of Pinacate, south-east of Los Picos del Pinacate, in a straight line hardly two miles from the top. There are four large, natural tanks here, one of them fairly easy of access. In years of ordinary rainfall the water lasts here all the year round.

Tinajas de la Cabeza Prieta, Camp. In Papago, *°Tjukomŏkamtjŭupo* ("Black Head Pools." *°Tjuk*, black; *mo*, head; *tjŭupo*, water in natural cavity of the rock, natural tank; in Spanish, *tinaja*). The Cabeza Prieta Range is east of Gila Range (Sierra de las Tinajas Altas). In the middle part, on the east side, is found a number of *tinajas*, one above the other, in a narrow gorge at the foot of the tallest top, from which the range derives its name. This must have been an important camp of the sand people, and certain old, crude stone heaps are found at the entrance to the gorge. (*See page* 324.)

Tinaja del Tule, Camp. In Papago, *Otoxakam* ("Where there is Bulrush." *Ótoxak*, bulrush (*typha latifolia*); in Spanish, *tule*). A well-known pool on the old trail from Caborca, over Sonoita, to Yuma, one day's journey east of Tinajas Altas.

Tornillal, Camp. The name in Papago is slightly doubtful, but is probably *Totshakshŏotaki* ("Foam on the Water." *Tŏtshak*, foam; *shŏotak*, water). Twenty-five miles from the mouth of Colorado River, fourteen miles west of Salina Grande, on the coast, one-quarter of a mile from the beach. Screwbean trees (in Spanish, *tornillo*) grow here, hence the name given to the locality by my guide. Water has to be dug for, and is brackish and bitter.

APPENDIX III

GEOLOGICAL SKETCH OF THE PAPAGUERIA

BY CYRUS F. TOLMAN, PROFESSOR IN MINING AND GEOLOGY, UNIVERSITY OF ARIZONA

The two groups of formations most extensively developed in the Papagueria belong respectively to the most ancient of rocks and to those formed during geologically recent times—to the pre-Cambrian complex on the one hand and to the Tertiary-Quaternary group on the other. This great area has been studied only in spots by geologists, and therefore detailed knowledge of the formations is lacking, and they have not been matched up with those of other and better known portions of the country. As far as present knowledge goes, the older group consists of gneisses, schists, slates, crystalline limestones, and coarse grained granites—the granites and granite-gneisses being most abundantly developed in the south-western portion. The group of younger rocks is made up chiefly of extrusives; volcanics represented by andesites, rhyolites, rhyolite-tuffs, and basalts. These are mentioned in the order of eruption as shown in the majority of localities. The most recent of the basalts, the extrusion of some of which may have continued into historic times, form in cases perfect volcanic cones, but the older lavas and most of the basalts appear as remnants of flows in fault blocks, or better as fault strips, these upturned blocks and strips forming many of the volcanic ranges.

Less widely distributed than the two groups mentioned above, but important throughout the Arizona Copper Fields as ore carriers, are the Paleozoic Series of limestones and quartzites. These are found in the Papagueria in the eastern and southern ranges; for instance, in the Tucson Mountains, the Silverbell Mountains, the Sierrita Mountains, in the Vekol Mountains, in the Caborca Mountains, etc. In the southern Papagueria (Altar District) a Mesozoic age is suspected for the thin bedded limestones abundant in this area, but as far as known to the

author the fossil collections necessary to determine this definitely have 133
not as yet been made. Intrusive granites and porphyries, in general somewhat earlier than the flows, intrude all the earlier formations, and are responsible for most of the ore deposits of the region.

Of the many interesting physiographic features of this area, the most striking is the commonly developed knife edge form of the mountains which protrude above, and are partly buried by, the detritus of the valleys. These mountain stumps are always chiselled into precipitous slopes by wind and torrential action. The valley fill is largely subaërial, deposited by the withering torrents from the mountains, which rarely if ever reach the gulf, or brought up by the wind from the present and ancient strands of the gulf, and built into the extensive "médanos" described by Mr. Lumholtz. Only temporary incursions of the gulf up the valleys, in Miocene and later times, are suggested by the fossils collected by Mr. Lumholtz and others, and by the numerous abandoned shore lines of the Salton Sea to the west.

The climate of this region has undoubtedly been dominantly arid 132
during recent geological times (late Tertiary, Quaternary, and Recent Periods), as shown by the physiography of the country, the make-up of the desert fill, etc. Brief respites, however, due to increasing humidity, are suggested by numerous "dry lakes," at times filled with water, and more recent changes by the deserted Indian villages, far from any known surface water supply.

[p. 400 is blank]

INDEX

ÅALIHIHIANI, children's cemetery, 99–106.
Abras, 17.
Abronia umbellata, 313.
Ădoš, 345.
Adonde, near Wellton, "Sand-people" at, 330.
Afterglow of the sun, 158.
Agave americana, 4.
Agriculture. *See under names of countries, places, peoples; e.g., Papagoes, agriculture.*
Agua Dulce camp, 196, 199–200, 286.
Agua Salada, 161, 200, 245, 281.
Agustin, Papago Indian, his silver mine, 291, 329.
Ajo, 81, 336.
Ajo Mountains, 31, 162.
Áktjin rancheria, 127, 129, 355; foot-races at, 75; singers from, 96.
Alamo, 287.
Algadones, 251.
Algansea tincella, 174.
Alóitak, singers from, 96.
Altar, District of, 83, 184, 264; mining, 182; order and government in, 177; prevalence of hydrophobia in, 184; rancherias, alphabetical list of, 387–394; water supply, 264.
Altar River, 16, 17, 18, 143, 146–147; village sites on, 335.
Altar, Sonora, 31, 134, 135, 177, 200, 258, 261, 334; description of town, 144–145; ports near, 142.
Alvina, Papago chief, 61–62, 79, 80, 82.
Ammobroma sonoræ, 319, 330.
Amole, 34.
Amphorbia polycarpa, 336.
Ancient remains, 337, 340–343. *See also Antiquities.*
Ánekam rancheria, 69, 108, 355; singers from, 96; tattooing at, 110.
Anemonopsis californica, 264.
Animals. *See fauna under names of countries and places; e. g., Mexico, fauna.*
Animals subsisting without water, 153. *See also Water supply.*
Antigonon leptopus, 135.
Antilocapra americana mexicana, 284.
Antiquities, 143, 179–180, 335, 340–342. *See also Ancient remains; Fortifications.*
Ants. *See under names of countries and places, also* 202, 335.
Apaches, 24, 26, 29, 239, 291; basketry, 353; fights with other Indian tribes, 74, 359–362.
Apache Tontos, 250, 252.
Areneños, 228, 231, 291, 299, 316, 329–332; camps of, alphabetical list, 394–397.
Argemone intermedia, 283.
Arituaba range, Indian fortifications in, 142.
Arizona, ancient artifacts and fortifications in, 9, 41, 142, 143, 341–342; ants, 116; birds, 13–14; Black Hills of, 9; booms, 82; climate, 5, 18, 32–33, 38, 67–68, 74, 78, 79, 109, 114–115, 343; fauna, 21–23, 71–72; 80, 112, 116; flora, 4, 10, 12, 14, 15, 19–21, 34, 37, 38, 45 *ff*., 72, 78, 80, 81, 100, 130–131; Indian reservations, 6–9, 337, 338–340; Indians, 9–10, 14–15, 16 *ff*., 332; Indian wars, 74; irrigation, 338; mineral wealth, 17;

6

000

mining, 82, 83, 290; progress of, 3; prohibition laws in, 9; rainfall, 43, 79, 81, 114, 117–118, 127; rancherias in, alphabetical list, 377–387; rattlesnakes, 117; rivers, 5, 17–18; roads, 114, 127–128; school-buildings and hotels, inappropriate to climate in, 343, 347; scorpions, 117; storms, 79, 86–87, 118–119; water supply, 18 *ff.*, 37, 72, 111.
Arizona, University of, 4–5, 32, 347.
Arrow heads, flint, superstitions relating to, 111, 180.
Arroyos. *See under names of countries and places.*
Atole blanco, 113, 351.
Aztecs, 28.

Baboquivari Range, 16, 33, 34, 39, 41, 67, 123, 174, 357; arroyos in, 41–42; caves in, 42; description of, 31–32.
Badger, 22, 231.
"Badger's Well" rancheria, 63.
Baileya multiradiata, 313.
Bajio del Alcalde ranch, 162.
Baltarea, 247.
Bancroft, 197.
Bandelier, Ad. F., 6, 24, 29, 377.
Barajita rancheria, 285, 355, 359.
Basketry. *See under names of tribes, also Papagoes; Pimas.*
Bates's Well, 290.
Beans. *See Frijoles; Tepari.*
Beauclerk, Lord Osborne, 249–250.
Beebe, Miss Emily, 204.
Beloperone californica, 207.
Birds. *See under names of countries and places.*
Bisani, 165.
Bisnaga, 20.
Black Hill Cemetery, 12.
Bonancita, 150.
Bonillas, Y. S., 158, 160, 234.
Brandy, 9, 74, 75, 194, 195, 291.
Brownell, Mr., store-keeper and mine-owner, 96.
Bull-roarer, 88, 90, 95–96.
Burden basket, 66, 68.
Burros. *See under Mexico.*
Butcher-bird, 80.

Cabeza Prieta Ranges, 197–198, 220, 239, 291, 322, 323.
Caborca, 142, 144, 177, 212, 245, 258, 261; American filibusters in, 147; ball games and races at, 74; church in, 146; diseases, 146; fighting at, 74; fortifications near, 142; Indians in, 147, 148, 354; old mission of, 25, 146; sahuaro festival at, 147–148; town of, description, 145 *ff.*
Caborca-Yuma trail, 196–197, 200, 237.
Cacate rancheria, 355.
Cacti, 10, 11, 20, 21, 151–152, 188, 276, 302, 310; providing drinking supply for animals, 152, 153, 154. *See also Choyas; Sahuaro.*
Cajilon, 174.
Cajon del Diablo, 197.
California, agriculture, 9, 19; discovery of gold in, 176, 241; grooved stone axes in, 143; routes to. *See Caborca-Yuma trail; Southern Pacific Railroad.*
California, Gulf of, 16, 45, 198, 210, 226; fishing, 257–258; flora, 319; Salinas, 163. *See also Mexico, Salinas.*
California, Lower, Indians from, 250; mountains in, 210, 258, 260.
Camino del Diablo, 197.
Camote of the médanos, 318–319. *See also Sand-people.*
Campana gold mine, 157.
Cara Colorada. *See Pancho, El Doctor.*
Caravajales, Indian hermit, 231, 266, 290, 333.
Cardo, 283.
Cargador, 139.
Casa Grande, 111; ancient ruins, preservation and antiquities of, 340–342.

Castillo, Papago medicine-man, 35–37.
Catholic Missions, 5–6, 12, 24–25. *See also under names of places; e. g., Caborca, mission of.*
Caves. *See under names of countries and places.*
Celadores, 164.
Celaya, Alberto, Mexican driver, 149, 212, 220, 236, 241, 275.
Century plants, 4.
Cereus giganteus, 10, 45. *See also Cacti; Sahuaro.*
Cerro Colorado, 203.
Cerro Pinto, 229, 311.
Cerro Prieto, 142, 245.
Change of climate. *See under names of countries and places; e. g., Mexico.*
Children, cemetery, 99, 105, 107; sacrifice of, 100.
Chireones ranch, 335.
Chordeiles acutipennis texensis, 13.
Choyas, 151–152, 188, 310, 334.
Chujubabi, 269, 270.
Cieneguilla placer mines, 182.
Clemente, Papago interpreter, 149, 212.
Climate. *See under names of countries and places; e. g., Arizona; Mexico.*
Cocopa Indians, 250–251; language of, vocabulary, 368–376; rancherias and customs of, 251.
Cocóspera, mission of, 146.
Colonia Lerdo, 235, 248–250, 268, 289.
Colorado, 24.
Colorado River, 16, 18, 145, 177, 182, 194, 197, 198, 212, 219, 226, 235, 242, 244, 246, 248, 250, 251, 287, 331.
Comaru, 161.
Comobabi rancheria, 65.
Comobabi range, 27, 40, 41, 43, 86; Indians in, 27, 356.
Condalia, desert bush, 34.
Consumption. *See under names of countries, places, peoples; e. g., Papago Indians, consumption among.*
Contact with whites, its effects. *See under names of Indian tribes; see also Consumption; Diseases.*
Copper. *See Mining.*
Coyotes, 14, 156–157.
Cozon gold fields, 150.
Crabbe, Capt. H. A., American filibuster, 147; defeat of, 74.
Crater Elegante, 213–214, 234.
Culiacan, Sinaloa, 135.
Curing disease, 36, 111, 180, 184, 264, 335–336.
Cyprinodon macularius, 175.

DANCING. *See under names of tribes; see also Festivals.*
Datura, 280.
Day, Judge, 83.
"Dead Old Man's Well" ranchèria, 85.
Deer, 22–23.
Desert Botanical Laboratory, in Tucson, 4, 5.
Desert travels, cowardice of a Mexican attendant, 292–294; loyalty of Indian guides, 291–292; provisions, 287. *See also under names of countries and places; e. g., Mexico.*
Dia de San Juan, 31.
Diaz, Melchior, route of, 197.
Diseases. *See under names of countries, places, and tribes.*
Dividing ranges, 16, 18, 83.
Dolores, Father Kino's first mission in Sonora, 24.
Dominguez Cipriano, 251, 252, 261.
Donkeys. *See Burros.*
Dosinia ponderosa, 256.
Douglas, Arizona, travellers from, 292.
Dowie, "Prophet," converts among the Papagoes, 39–40.
"Dry farming," 19.
Dry-washing gold, 183. *See also Mining.*

EARTH MAGICIAN MYTHS, 357–358.
Echinocactus, 20.

El Boludo gold mine, 140, 144.
El Capitan, 243–244, 247, 280.
"Elder Brother" legends, 42, 48, 192, 207–208, 357–358.
El Doctor swamp, 254.
El Durasno Mountain, 160.
Eleodes, 227.
El Paso, 1, 2.
El Pozo camp, 290, 292.
El Tiro gold mine, 140.
El Tren mining camp, 158.
El Veit, 290.
Encelia eriocephala, 244.
Encelia farinosa, 10.
Ephedra, 215, 247.
Espuma, 270.
Estero del Tule, 265.
Euphorbia polycarpa, 206.

FAUNA. *See under names of countries and places; e. g., Mexico, fauna; see also names of particualr animals.*
Festivals, Indian. *See under names of countries, places, tribes.*
Filibusters, 147.
Fishes. *See under names of countries and places.*
Flora. *See under names of countries and places, e. g., Mexico, flora; see also names of particular plants.*
Florence, on the Gila River, 123.
Forbes, Prof. R. H., 31, 347.
Fortifications. *See under names of countries, places, tribes.*
Fort Yuma, 18.
Fouquieria splendens, 302.
Franciscan missions, 25.
Fresnal rancheria, 32–33, 356.
Frijoles, 25, 216.
"Frog Doctor," Papago rain song, 122.
Fuerte de Montes Claros River, 182.

GAILLARD, Capt. D. D., 241.
Galletal camp, 285.
Galletal inlet, 218.
Gambel's quail, 14.
Games and races, 74, 75, 89, 149, 332, 358, 359.
Garambullo Ranch, 150, 153, 154.
Garbanzos, 7.
Geological formations, 17. *See also* 398–399.
Geological sketch of the Papagueria, 398–399.
Giant cactus. *See Sahuaro.*
Gila Bend Reservation, 337; Indians in, 355.
Gila Crossing, 340.
Gila Range, 45, 220, 229, 239, 280, 302.
Gila River, 5, 16, 18, 24, 25, 83, 143, 162, 182, 269, 320, 337; Indians on, 123; missions on, 25, settlements, 338; reservation, 339; village sites, 342.
Gold. *See under names of countries and places; Mining.*
Golondrina, 206, 335–336.
Gray, Col. Andrew B., 319.
Gray, Dr. Asa, 319.
Gray, Mrs. John, 237.
Greasewood, 21; antiseptic and other useful properties of, 222–223.
Growler Mountains, 16.
Growler Well, 290, 332.
Grus, 248.
Guadalajara, 135.
Guadalupe, Indian attendant, 187 *ff.*, 195, 269, 288, 295, 297, 325, 333.
Guaymas, port, 135, 136.
Guayule rubber, 12–13.

HACIENDA DE SANTO DOMINGO, 159, 200.
Hadrurus hirsutus, 117.
Hardie River, 250.
Hediondia, 223. *See also Greasewood.*
Herba del Manso, 264.
Herba del Vaso, 10.
Herba salada, 154.
Hermosillo, capital of Sonora, 11, 135, 136, 220.
Híạtatk, 319.
Híatit Óotam, 329–332. *See Areneños.*
Higuera, 147.
Hoe, wooden. *See Kiik.*

Hohóla Papagoes, 105.
Hohóla rancherias, 355.
Holmes, Prof. W. A., quoted, 143.
Hornaday, Dr. William T., 10.
Horned lizard, 71–72.
Hornitos, 150.
Horseshoe mine, 83.
Hótunikat, 329.
Huichols, religious festivals of, 356.
Hungary, "dry washing" machines from, 183.
Hydrophobia, cure for, 184–185.
Hymenoptera, 315.
Hyptis, 204.

ÍTTOI, myths of, 168, 171, 173, 202, 203. *See also Elder Brother.*
Indian Oasis, 81, 356; feasts at, 75; store at, 43, 79.
Indians, 6–9, 14, 15, 250, 285; ancient fortifications, 140–142; cemeteries, 11–12; consumption among, 339; cooking utensils, 7; customs, 251, 253; salt-fetching customs, 269–272; tribe hostilities, 251–252. *See also names of separate tribes and under names of countries and places; e. g., Arizona, Indians; Papagoes.*
Insects, 80, 227, 281, 316.
International Boundary Commission, 241, 304.

JACAL, 8.
Jack-rabbit mine, 31.
Jesuit missions, 25, 197.
Jojoba, nut-bush, 81.
José Juan, medicine-man, 285, 290–291.
Juan, Papago Indian, 91, 119, 125.
Juanito, Papago Indian, 56, 62–63.
Juarez mines, 182.

KANSAS, farming, 19.
Kansas City, Mo., speculators in Mexican land from, 158.
Kiik, Papago weeding implement, 68–69, 341–342.
Kino, Father, 24, 175, 341; map by, bUD 197; mission of, 138.
Kitazawa, Dr. K., 118, 146.
Kohatk Indians, 355; rancherias, alphabetical list of, 386–387.
Kohatk rancheria, 111; relics near, 341.
Kokeloroti rancherias, 356.
Kóxikux rancheria, 356.
Kuátshi. *See Santa Rosa rancheria.*
Kukómalik rancheria, 111, 355.
Kuóitak rancheria, 79.
Kvítatk, feast at, 75; singers from, 96.
Kvivo rancheria, singers from, 96.

La chicharra, 205.
La Choya camping-place, 276.
La Cienega placer mine, 144.
La Colonia, 251.
Laguna Prieta, 235, 243, 244, 245, 246, 279, 291.
La Nariz rancheria, 161, 166, 169, 174, 256, 270; fortifications near, 142, 168.
Lanius, 80.
La Papaga gold mine, American prospectors at, 294.
La pastora, 285.
La Plaza plain, 296.
La Quemada, Zacatecas ruins of, 142.
Larrea tridentata, 21. *See also Greasewood.*
La Salada, 256.
La Soda, 269, 275–276.
Laurel, 336.
La Ventana hill, fortifications on, 41.
La Ventana ranch, 335.
Leupp, Mr., Indian commissioner, 133.
Level Ground Cemetery, 12.
Levy, M. G., 81, 175.
Llano Blanco rancheria, 335.
Llanos. *See under Mexico.*
Lopez, Clodomiro, guide, 220, 233, 235, 241, 275, 279, 280, 285, 286, 287, 303.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

000

Lophortyx gambeli, 14.
Los Cerritos del Rio, 282.
Los Picos del Pinacate, 201.
Los Positos, 200, 282, 286.
Lunar rainbow, 180–181.
Lycium, 218.
Lydig, Mrs. David, 236.

MacDougal, Dr. D. T., 11, 21.
McGee, Prof. W. J., 142, 322.
Magdalena, 137, 139, 142; fiesta of San Francisco in, 75.
Magdalena, District of, burros in, 200; description, 134.
Magdalena River, village sites on, 335.
Maguey, 4.
Maiz de los Yumas, 169.
Maricopa Indians, 252, 338; diseases among, 339; statistics, 339; wars with Apaches, 74.
Maricopa railroad station, drug store at, 338–339; Indians near, 355.
Martynia, 353.
Masks, 127; clowns, 93, 97, singers, 94, 129–130.
Médanos. *See Sand-dunes.*
Medicine-lodges, 48, 49, 51–53, 57, 106, 120, 166, 167, 172.
Medicine-men. *See under names of Indian tribes.*
Mescal, 4.
Meteors, 159–160.
Mexicans, fond of being photographed, 132; rancherias of, 162; relations with Papagoes, 172; relations with Yaqui Indians, 136–137.
Mexico, afterglow of the sun, 158; agriculture, 144–155, 176, 249, 254; American land-investors in, 159; burros, 200, 310–311, 317, 326; cattle-herds in, 244, 245, 249; "cattle that do not drink" in, 153; Chinese in, 137; climate, 169, 189, 193–194, 201, 202, 205, 211, 212, 214, 232, 238, 248, 256, 279, 296, 306, 322, 324, 336; climate, change in, 17, 18, 180, 202, 232; custom-house inspectors, 164; early Spanish explorers, 143–144; fauna, 135, 156–157, 161, 162, 169, 199, 205, 206, 210, 212, 213, 217, 218, 219, 224, 231, 240, 245, 248, 257, 265, 274, 277, 280, 283–284, 295, 296, 297, 309, 316; filibusters in, 147; firewood in the desert, 215; fishes, 174–175, 276; flora, 134, 135, 139, 147, 151–152, 161, 176, 188, 201, 204, 205, 207, 213–214, 215, 217, 218, 219, 221, 222–223, 224, 234, 236, 237, 238, 244, 247, 248, 249, 251, 255, 256, 259, 260, 264, 276, 277, 278, 280, 281, 282, 283, 284, 286, 287, 295, 296, 297, 302, 306, 309, 310, 311, 312, 313, 316, 317, 318, 330–331, 335–336; flour mills, 190; getting lost in, 303 *ff.*; gypsies, 140; hidden treasure hunting, 308; hospitality, 288; Indian fortifications in, 140–141, 142, 168; Indian antiquities, 179–180, 335; Indian remedies, 335–336; Indian revolts, 175; Indian wars, 74, 75; jack-rabbits, 334; Japanese in, 137, 146, 178; llanos, 238, 247; lunar rainbow, 180–181; mail-service, 149, 170; meat-eating, 287; medicinal plants, 247, 264; meteors, 159–160; mining, 140, 144, 150, 161, 182–184, 197, 261, 299, 300; missions, 175, 197, 291; mountains, 160–162, 230, 236, 237, 239, 242, 260, 301, 311, 315; mountain-sheep, 206, 210, 219–220, 234, 240, 323; paleontological discoveries, 170–171; railroads, 135, 136, 280; rainfall, 145, 166, 291; rancherias in, alphabetical list, 387–397; refraction of sunlight, 185–186, 232, 243; remedies, 221; rivers, 17; roads, 187; salinas, 176, 254, 261, 265 *ff.*; *see also under Salina;* sand-dunes, 225–227; sand-people relics, 204, 217, 316; soap manufacture, 200, 276;

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

soda deposits, 275–276; topography, 134; trails, 196, 237, 301, 304, 305, 316; volcanoes, 201, 203, 212, 213–214, 221, 232, 233–234, 279, 296; water supply, 140, 146, 147, 150, 161, 162, 163, 170, 198, 199, 200, 204, 205, 225, 228, 231, 235, 237, 238, 241, 246, 252, 255–256, 258, 259, 262–264, 266, 286, 302, 322.
Mexico, City of, 28, 174.
Mezquite trees, 14, 21, 78; spur made from, 63.
Micropallas whitneyi, 22.
Miguel, Papago Indian, 172.
Milton, Jefferson, 42.
Mimus, 231.
Mineral wealth, 17. *See also Mining.*
Mining. *See under names of countries, places, and particular mines; e. g., Arizona, Mexico.*
Missions. *See under names of countries, places, tribes, and particular missions; see also Jesuits; Kino, Father.*
Mochomo, 335.
Mohawk, 321.
Mohawk Range, 220.
Montezuma's Cave, 37, 42.
Mountains. *See under names of countries and places; see also names of particular mountains.*
Mountain-sheep, 22, 280, 283–284, 297–298. *See also under Mexico.*
Myths and legends. *See under Papago Indians, Pinacate, Elder Brother, Iitoi.*

Nama stenophyllum, 283.
Navaita festival, 48.
Nevada, 17.
Niári, harvest custom among Papagoes, 165.
Nighthawks, courtship of, 13–14.
Noche Buena, 251.
Nogales, Sonora, 134, 234, 249.
Noria rancheria festival, 48 *ff.*, 86.
Norias gold placer mine, 150.

Ocotillo, 21, 302. *See also under Flora.*
Œnothera trichocalyx, 154, 236, 256, 278, 312, 331.
Ola, Papago woman's game, 89.
Opata Indians, missions among, 25.
Opuntia fulgida, 151, 188, 334.
Opuntia mamillata, 152.
Oquitoa, Altar, 184.
Ortega, Cipriano, 200, 321.
Ortega, Santos, 150–151, 152, 154.

Pablo, José Xavier, Papago attendant, 30 *ff.*, 132–133, 345.
Paleontological discoveries, 170–171.
Palo fierro, 224–225, 280, 295. *See also under Flora.*
Palo verde, 4, 21, 78. *See also under Flora.*
Pancho, El Doctor, Papago attendant, 198, 293, 295, 298, 300, 311, 314, 315, 318, 328.
Papago Indians, 6–9, 10–12, 16 *ff.*, 32, 238, 291; agriculture, 25–27, 37, 91, 164, 169, 330; character, 109, 345; ancestors of, 341; appearance of, 27; ball games and races, 74, 75, 149, 358–359; basket-weaving, 23, 34, 57, 85, 120, 224, 353–354; brandy-smuggling, 75; bull-roarer, 95–96; burial customs, 11, 12, 127; cactus in life of, 47 *ff.*; calendar, 76; calendar record from 1849 to 1908, 74–76; Catholic missionaries among, 12, 24–25; cemeteries, 64, 99–107, 169; chewing-gum used by, 10, 346; child birth and ceremonies, 350, 351; clown's outfit, 92, 93–94, 97; consumption among, 114, 346–347; cooking, 7, 112, 113, 114, 131, 169, 216, 318, 330–331, 334, costumes, 124, 331; courtship and marriage, 347, 348, 349; customs, 10, 28, 58, 60, 84, 324, 331, 346; dancing, 45, 54, 75, 121; decorative art of, 342; diseases, 74, 75, 146, 178, 184, 185, 329, 346 *ff.*; divisions of the tribe, 354–356; Dowie missionaries

OBD

among, 39–40; drinking, 9, 57–58, 123, 125, 148, 172, 195; dwellings, 7–8, 77, 86–87, 91, 165; effects of contact with white man, 9, 57, 70, 112–114, 125, 346–347, 352, 354, 364; Elder Brother legends, 42, 48, 58, 168, 171, 207 *ff*., 355; family life, 84–85, 347–352; festivals, 43, 47 *ff*., 55, 57 *ff*., 60–61, 74, 75, 92 *ff*., 119 *ff*., 172, 229, 329, 356; fights with Apaches, 26, 74, 359–362; harvest custom of niári, 164–165; health, 344; history and origin, 354; honesty of, 84; hospitality, 165; hunting among, 34, 330, 332; hydrophobia, cure for, 184–185; implements, 57, 68–69, 70, 87, 88, 316; industries, 353–354; intermixture, 352, 353; Keeper of the Smoke, 52, 53, 56, 102; language, 23–24; vocabulary of, 368–376; lodges, *see Medicine lodges;* manners, 346; medicine-men, 33, 35–37, 49–50, 54, 55, 57, 74, 88, 97, 166–167, 209; menstruation, 350; mining, 83–84, 100, 105, 182, 183, 184; myths, 48, 58, 100, 105, 168, 171, 202, 203, 240, 357–358; nursing, 110; objections to being photographed, 34–35, 61–62, 67, 70, 71, 76–77, 104–105; physical, mental, and moral characteristics, 27, 344–345, 352; pottery, 8, 353; present conditions and prospects of, 28, 363–365; puberty ceremonies, 75, 350; rancherias, 25–26; alphabetical list of, 377–397; remedies, 184–185, 335–336; revolts of, 25; scorpion and snake-bite cures, 335–336; sham battles, 362–363; singers, 94–96; statistics, 339; stores among, 43; superstitions, 35–37, 55, 58 *ff*., 106, 111, 140; tattooing, 110; tobacco, 51, 52; tortillas, 190; trade, 273, 332; war shields, 127; witchcraft, 24; woman's position in, 347–352; women's games, 89–90.

Papagueria, ancient implements in, 341; boundaries, 16; climate, 18; fauna, 21–23; flora, 19–21; fortifications in, 142; irrigation, 26; rancherias in, 25–28, 355–356.

Papagueria, geological sketch of, 398–399.

Paso de Juana, 237.

Pechita, 331.

Pedro, Papago attendant, 295, 296, 297, 298, 300, 311, 313, 314, 315, 317, 320, 324, 327, 328–329.

Pelon rancheria, 337.

Philibertea linearis, 309.

Physalis lobata, 283.

Pike, Warburton, 249.

Pima Indians, 23, 24, 338, 355; affability of, 112; basketry, 340, 353; Catholic influence on, 112; cooking, 112; customs and character of, 339–340; decorative art of, 342; festivals, 74, 75; fights with Apaches, 363; language of, vocabulary, 368–376; objections to being photographed, 112; rancherias, alphabetical list of, 386–387; revolt of, 175; statistics, 339; trade with Papagoes, 273.

Pimeria Alta, 16; revolt in, 25.

Pinacate, 171, 181, 192, 194, 200, 201, 205, 217, 220, 221, 225, 227, 236, 290, 302; craters, 234; lava flow, 296; myths about, 202, 203, 357; Papagoes in, 329; prospecting in, 321; sacred cave, 199, 207 *ff*.

Pinacate beetles, 227.

Pinta pan, 205.

Pitahaya fruit, 46, 80.

Pitiquito, 145, 146, 184; Indian relics, 335.

Piukváotam, Papago Indian, 67.

Plantago fastigiata, 283.

Plants. *See flora, under names of countries and places; e. g., Mexico, flora.*

Pogonomyrmex barbatus, 335.

Port Lobos, 45, 220.

Potioptila, 309.

Pottery-making. *See Papagoes.*
Pozo Blanco rancheria, 355.
Pozo del Caballo, 266.
Pozos, 262–263.
Pozos Muchos rancheria, 355.
Pozo Verde rancheria, 37, 39, 356, 359.
Pozo Vicente, 251.
Practising enclosure. *See Váaki.*
Presbyterian Mission School, Arizona, 30.
Pronghorn antelopes, 284.
Prosopis pubescens, 258.
Provisions. *See Desert travels.*
Pueblo Indians, 8; decorative art of, 342; religious festivals, 356.
Puerto de Libertad, fresh water at, 258.

QUELÉLE, Papago medicine-man, 192 *ff.*, 206–207; his prayer to Iitoi, 209.
Quelite, 131, 134.
Quijotoa Range, 41, 62, 79, 80, 174; Indians in, 27, 355; mining, 83; races near, 355; rancherias in, 85.
Quiroz, Isauro, 160, 178, 192, 288, 289.
Quitovac, 16, 148, 165, 166, 168, 169, 170, 171, 174, 182, 185, 187, 193, 195, 200, 269; festivals in, 93, 96, 172, 229, 329; mining, 182, 183; Papago customs, 350; settlement of, 148.
Quitovaquita, 198, 269, 286, 289, 331; Indians, 332, 354; settlement, 198.

RABBITS, 14.
Rainbow, Papago Indian, 168.
Rainfall. *See under names of countries and places; see also Water supply.*
Ramon Cachora, Papago family, 39–40.
Rancherias, 25–26; alphabetical list of, 377–397. *See also under names of countries and places and names of particular rancherias.*
Rancho de Macias, 159.
Rattlesnakes, 117.
Red Rock, Apaches' attack on, 74.
Refraction of sunlight, 185–186, 232, 243.
Relics, 204, 217.
Represa de Enrique rancheria, 163.
Represa Ranch, 170.
Revolts, 136–137.
Rillito Salado River, 248.
Rivers. *See under names of countries and places and names of particular rivers.*
Robles Ranch, 131.
Rodents, 22.
Roskruge Range, 72.
Rubber, 12.
Ruiz, Priscilliano, 138.
Russell, Frank, quoted, 360–361.

SACATON RESERVATION, 111, 339; festivals at, 74.
Sahuaro, 10, 21, 135, 280; description of, 45 *ff.*; feasts, 47 *ff.*, 75, 119 *ff.*, 147–148; fruit-juice of, 46, 77; wine, 32, 47, 48, 56–60, 93, 120, 123, 125.
Salina del Pinacate, 265 *ff.*, 270, 273, 276, 285.
Salina de San Jorge, 163, 269–270.
Salina Grande, 261; waterholes at, 262–263.
Salinas, 163, 261 *ff.*, 265, 268, 269. *See also names of particular salinas and under names of countries and places.*
Salitre, 176, 200, 254, 255.
Salt expeditions, 99, 163, 218, 269–272, 285. *See also Salinas.*
San Antonio gold mine, 182.
Sand-dunes, 225–227, 236, 265, 277 *ff.*, 299, 300.
Sand Papagoes. *See Areneños; Hiatit Óotam.*
San Francisco, fiesta of, 138 *ff.*
San Francisco placer mine, 144.
San Ignacio, 138; Indian fortifications near, 142.
San Luis, 150.

7: Lumholtz N-5 (1909-1910)1912
NU28 Papago NU28

San Miguel rancheria, 38.
San Pedro, Sonora, 123.
San Pedro Martiro Mountain, 260.
San Pedro settlement, 72.
San Perfecto, 150.
Santa Ana, 140; Indian fortifications near, 142; Indian wars at, 74.
Santa Clara, "harbor of," 254–255.
Santa Cruz River, 5, 17, 31, 143.
Santa Rosa rancheria, 90 *ff.*, 116 *ff.*; cemeteries, 99 *ff.*; festivals and races, 92, 109, 119 *ff.*, 359; Keeper of the Smoke in, 106 *ff.*
Santa Rosa valley, 174; basketry in, 353; Indians, 27, 29, 355, 356; mounds in, 69; relics, 341; sham battles, 362.
Santiago, Papago hunter, 34–35.
Santo Domingo, 331.
San Xavier, 9, 13; Apache attack on, 74; cemeteries near, 11–12; feast at, 75; fortifications, 9–10; singers from, 96.
San Xavier del Bac, Mission of, 5–6, 83.
San Xavier Range, Indians in, 356.
Sasabe custom-house, 164.
Sauceda rancheria, 355.
Scorpion-bite cure, 335–336.
Scorpions, 117.
Screw-bean trees, 258, 259.
Sepánovak rancheria, 39, 356.
Seri Indians, missions among, 25.
Sesbania macrocarpa, 249.
Sierra Blanca, 45, 220, 277–278, 279, 280, 282, 285, 291, 302.
Sierra de Cubabi, 162, 187, 220.
Sierra del Alamo, 220.
Sierra de la Manteca, 160.
Sierra de la Nariz, 161.
Sierra de Lechugilla; 301, 302, tinaja in, 235, 238–239.
Sierra del Pozo, 201.
Sierra del Rosario, 242–243, 260, 263, 289, 311.
Sierra del Tuseral, 199, 236.
Sierra del Viejo, 220, 245, 300, 321.
Sierra de San Francisco, 201, 281.
Sierra de Santa Rosa, 161, 220.
Sierra Entreada, 230.
Sierra Extraña, 230.
Sierra Madre, 182.
Sierra Nina, 237, 299, 300.
Sierra Pinta, 281; mines, 182, 282.
Sihu. *See Elder Brother.*
Siilmök rancheria, 337.
Sikulhímat rancheria, 83; singers from, 96.
Silver. *See Mining.*
Simon, Papago Indian, 92, 99 *ff.*
Sinaloa, 182.
Singers. *See under names of countries, places, tribes; e. g., Aktjin rancheria, singers from.*
Snake-bite cure, 335–336.
Songs and singing, 50, 59, 70, 121, 122, 123, 349.
Sonoita, 16, 25, 41, 46, 143, 148, 159, 160, 161, 164, 169, 170, 174, 176, 187, 189, 192, 195, 196, 212, 235, 269, 285, 286, 287, 289, 333, 334, 336; ancient artifacts in, 143; mining, 182; missions in, 25, 175; order and government in, 177; provisions bought at, 189–191; ruins, 175; settlement, 148, 162, 174 *ff.*
Sonoita River, 17, 18, 32, 162, 197, 198, 281–282, 286; fishes in, 174–175; sources and course of, 174, 178–179.
Sonora, 16, 19, 27, 29, 46, 134, 135; Apache attacks in, 74; festivals in, 75, 93; flora, 319; fortifications, 142, 168; gold in, 29; Indians, 123, 136; mining, 83, 182, 183; peace and order in, 177; rancherias, alphabetical list, 387–397; village sites, 342; water, 136.
Sonora Desert, 11, 16, 136.
Sosa, 276.
Southern Pacific Railroad, 3, 111, 196, 332, 343.
Sphæralcea incana, 244, 283.
Sphæralcea orcuttii, 244.
Storms. *See Arizona; Change of climate.*

7: Lumholtz N-5 (1909-1910) 1912
NU28 Papago NU28

600

Suæda, 276.
Súvuk, 330.
Sykes, G., 233.

TAJITOS GOLD MINE, 150.
Tapia, José Y., 261.
Tattooing, 110.
Tecolote. *See Kokeloroti rancherias.*
Temporales, 169; agriculture at, 162, 163.
Tepari beans, 251, 287.
Tesota rancheria, 337.
Texas nighthawks, 13.
"The Fortress," ancient village, 337.
Thornber, Prof. J. J., 4.
Tinaja del Cuervo, 217, 218, 269, 280, 286.
Tinaja del Galletal, 218.
Tinaja de los Chivos, 205, 228.
Tinaja de los Papagoes, 228, 231–232, 295, 296, 299, 301, 314, 322, 325.
Tinaja del Pinto, 218.
Tinaja del Tule, 196, 228, 235, 237, 322, 324.
Tinaja del Tule camp, 196.
Tinajas, 18, 217, 218, 220, 228, 235, 237, 244, 245. *See also names of particular tinajas.*
Tinajas Altas, 220, 235, 236, 239, 240, 243, 245, 294, 299, 302, 304, 305, 308, 317, 321, 326.
Tinajas Altas camp, 197.
Tinajas de Emilia, 204, 330.
Tinajas de la Cabeza Prieta, 326.
Tjeavőlitak, foot-race at, 75.
Tjíuvak rancheria, 85.
Tjukutkokam Kikam. *See Kokeloroti rancherias.*
Tjúupo rancheria, 355.
Toji, medicinal plant, 221.
Tolman, Prof. Cyrus F., Geological Sketch of the Papagueria by, 398–399.
Tordillo Mountains, 239.
Tornillos, 258.
Tortillas, 190.
Tótokvan rancherias, 356.
Toumey, Professor, 18.
Tovoso, resinous bush, 81.
Trincheras village, 140, 142; ancient fortifications of, 140–143.
Tuberculosis. *See Consumption.*
Tucson, 1, 12, 13, 14, 15, 16, 18, 31, 132, 183, 272; business and order in, 3–5; excavations near, 12; fortifications near, 142; Indians, 16; plant life, 131; rainfall, 18.
Tulares, 255.
Typha latipholia, 246, 264.

UNNATURAL VICE, 352–353.

VÁAKI, ceremonial practising enclosure, lodge; the Casa Grande ruins is also thus named, 58, 97.
Velasco, J. F., 26, 146, 182.
Víikan Shóotak pond, 32.
Víkita, harvest feast, 92.
Virginia creeper, 5.
Volcanoes. *See Mexico.*

WATER SUPPLY. *See under names of countries, places; e. g., Mexico, water supply.*
White brittle bush, 10.
White Mountain Apache school, 347.

YAQUI INDIANS, 25, 26; diseases, 146; feasts, 138; language, 137; mechanical ability, 137; mining, 137; missions among, 25; relations with Mexicans, 137.
"Yellow Caterpillar" rancheria, 128, 129.
Yuma, 197, 251. *See also Caborca-Yuma trail.*
Yuma Indians, 251, 332.

Zuñi, 158, 176.